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Vacation Lectures
ON
FIBRINOUS DEPOSITION IN THE HEART:

ITS HISTORY AND PRACTICAL MEANING.

DELIVERED AT THE GROSVENOR PLACE SCHOOL OF MEDICINE.

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LECTURE IV.

Application to Prognosis and Practice.

GENTLEMEN,—We have been led by our previous studies to the last, but not the least important, part of our subject. We are brought to consider the *cui bono*. Some writers, who would agree with much that I have said, ask whether, supposing it all to be correct, there is any good in the knowledge of the facts? If, say these argumentalists, things are so, the hopelessness of medicine as a practice is broached openly, when it had better be concealed; for treatment there is none, when the diagnosis of fibrinous deposit in the heart is complete.

I demur altogether to this argument; but, as it has met me these ten years, daily I had almost said, I must state it as it is. I urge, on my side, that what seems hopeless knowledge, is ever better than floundering ignorance. I hope now to show that the information I have tried to convey has a threefold value: that it may, in the first place, make prognosis more accurate; in the second place, guard the practitioner against bad practice; and, in the third place, that it may in time lead to suggestions bearing directly on curative treatment. But, as a primary step, let us consider how far, in special cases, the existence of a concretion in the heart determines the course of a disease. From this point of view, fibrinous depositions have three meanings.

I. There is, as we have seen, a class of cases in which the deposition is the sole cause of dissolution. I have given already various illustrations of this variety of disease, when dwelling on acute hyperinosis. Those examples connected with puerperal fever are, *par excellence*, examples of the kind.

II. In other cases, the deposition of fibrine occurring in the course of an acute disease adds new symptoms to such disease, and renders fatal that which before was dangerous, but not *of necessity* fatal. In acute pneumonia, in pleurisy, in peritonitis, and, in fine, in all the sthenic inflammations, this effect of deposition may obtain.

III. In a third set of cases, the deposition of the fibrinous constituent may be the consequence of conditions in themselves *necessarily* fatal. We have had before us several examples of this nature. We may place advanced phthisis pulmonalis, cholera, deadly injuries producing shock, and poisoning by depressants, in this category.

It is my wish strongly to impress these distinctions on the mind; and I would specially guard myself, as I always have guarded myself, from the assumption that fibrinous deposition is in every case where it occurs *the* cause of death. I may offer a law on this point, indeed, without a touch of dogma. It is this: Fibrinous deposition occurring in the course of a disease ensures a fatal termination as a general rule: but the disease might be fatal without the occurrent deposition. This premised, let us turn to matters of prognosis and practice.

In all cases of the acute inflammatory type, whether slightly or broadly defined, the practitioner who is conversant with the risks of fibrinous deposition will be on his watch tower. He will remember the symptoms by which the existence of deposit is recognised; he will be guarded in his promises, and careful in his predictions. Most of all, he will be protected from being misled by those rapidly developed changes from severe local disease to suppression of local symptoms, which so often give rise to illusory hopes, and usher in the death.

Again, as I have said, the knowledge of the existence of a fibrinous concretion in the heart may prevent the committal of meddlesome, and, because useless, mischievous practice. In days when blood-letting had its full swing, when everybody was bled once in every disease, and once a day in inflammatory diseases; when even the convulsion of hæmorrhage was met by a recall on the lancet; in those days there arose, amidst all the confusion, this persuasion, that to bleed late in an inflammatory disease was bad practice. If I remember rightly, immortal Mackintosh himself, on every page of whose *Practice of Physic* there is a gaping vein, admits this rule; and the reason of the rule is obvious enough. In the later stages of inflammation, the tendency to fibrinous deposition is increased. The effect of hæmorrhage is to increase the volume of water in the blood, to distribute the fibrine solvent, and to encourage fibrinous deposition. When, therefore, late in the inflammatory state blood is drawn, the balance of the blood constituents, already disturbed, is disturbed the more, and all that is wanting to secure the deposition of fibrine is secured. The rule, therefore, as I say, originated that it was better in inflammatory disorders not to bleed late in the disorder; and this rule, expanded now into wider pretensions, goes pretty nearly to the length of telling us that it is well to avoid bleeding at all stages; not because bleeding is not a grand remedy, but because it is too grand a remedy to be used without a definite knowledge of the time when to use it. I have, nevertheless, seen the rule about late bleeding in an inflammatory disease disobeyed even in our own time; and therefore I enforce it, and give the reason for its enforcement. In a case of acute pneumonia, which came under my observation some years ago, I was overruled to take blood. After the bleeding, the strong man fell like a shot bird. He fell into sleep, and he slept into death. A large fibrinous concretion blocked up the right cavities of his heart. This clot had possibly commenced to form before the venesection; afterwards its rapid increase was determined, and the death was hastened by the means intended for its prevention.

The remarks against the general abstraction of blood in the later stages of inflammatory disease tell with little less force against local blood-letting. Indeed, there is not unfrequently a greater danger in the local than in the general remedy, inasmuch as, owing to its supposed harmlessness, it is more fearlessly resorted to. "A few leeches can do no harm," is the common sentiment: it is an incorrect sentiment, nevertheless, and to be guarded against always, and with special care in cases of acute hyperinosis in the young. Speaking, indeed, of hyperinosis in children, I would, if my voice had any influence, raise it against the abstraction of blood altogether in such examples. There is a form of acute pneumonia often met with in well fed fat children. We put on leeches; the bitten surfaces bleed furiously; but the disease is not stopped. From such a patient, the more the blood taken, the greater the risk incurred; for, whenever the local indications of inflammatory mischief subside, the general indications of deposition are in the ascendant. "Breathless, pale, and bloodless", the end of the patient is at hand.

The same rule which tells against venesection extends to the administration of two classes of medicaments—purgatives and opiates. To reduce the amount of water in the blood, by draining it off through the alimentary canal, is but to increase relatively the amount of fibrine in a blood in which the fibrine is already absolutely increased. And so, once more, to paralyse the heart with opium, during the existence of acute hyperinosis, is to double the danger of deposition by bringing

into play that feeble condition of the circulation which we have described as in itself immediately favourable to fibrinous separation.

There are, further, some points of practice to which I would direct your attention, in relation to one special disease and one particular surgical operation. The disease is croup, the operation tracheotomy. I have shown that, in croup, death may result from two distinct causes—from obstruction in the trachea or larynx, from obstruction on the right side of the heart. Some years ago, led by the observation of these facts, I was forced to protest against what I considered an indiscriminate resort to the operation of tracheotomy as a remedial measure in this disease. My opinions had the misfortune at that time to be opposed with great vigour and ability by my friend Mr. Henry Smith, an English surgeon who has, I believe, performed tracheotomy in more cases of croup than any other operator in this kingdom. I saw, however, no occasion to desert the position I had taken; and late events have confirmed the correctness and safety of that position. Recently, with a candour which is most honourable to his character, Mr. Smith has publicly stated that he believes himself to have been wrong. He admits that there are cases in which death in croup is the result of fibrinous deposition in the heart; and the practical lesson he leaves with his readers is, that, in these cases, the operation were better left undone. With such an important admission before me, I need only plead the seriousness of the question in excuse for some repetition in laying down the following observations for the guidance of the medical man in doubtful cases of the disease.

The symptoms which mark the cases of croup about to terminate in syncope, the result of cardiac obstruction, are distinct from those arising from obstruction in the air-passages, in the following particulars:—

In the cases of syncope which arise from arrested circulation, the dyspnœa is not caused by obstruction in the larynx, but by the peculiar anxiety and gasping desire to breathe incident to the want of blood in the pulmonic circuit. In this case, therefore, if the stethoscope be carried from the upper part of the windpipe downwards, and over the whole chest, the respiratory murmur is audible, and, it may be, clear throughout, so that the observer is prepared to say that there is here no such deficiency of respiration as will account for the severity of the symptoms. Again, the most common physical pulmonic sign in these cases, is that of emphysema, which is often accompanied, in very young children, by a peculiar prominence in the anterior part of the chest. This emphysema, when present, is strictly diagnostic of fibrinous obstruction, and is altogether subversive of the idea that the cause of the symptoms is an obstruction in the windpipe.

In addition, there are, in these cases, the definite signs which mark the cardiac obstruction. The body is cold, and generally pale, almost marbly, but mostly so at the extreme parts. The lips are slightly blue; the cheeks are occasionally the same. The jugular veins are distended. The pulse is irregular. The body is painfully restless. The heart-beats are feeble, quick, and irregular; the sounds muffled. No real convulsions of the limbs occur, but intense anxiety and constant movement.

In those cases, on the other hand, where the death is really due to apnœa—the effect of obstruction in the air-passages—the symptoms are widely different. In these cases there is some point in the respiratory canal where an obstruction can be detected. The lungs show signs of congestion, but never of emphysema. The difficulty of respiration arises from an absolute inability to fill the chest. From the fact of the obstruction being in the respiratory circuit, such blood as passes through it is not arterialised, and the surface of the body, instead of being pale, as in cases of cardiac obstruction, is generally of a dark hue, with the veins more decidedly turgid. The muscles are not simply restless, but actually convulsed violently, the patient being unconscious of the fact; the heart-sounds are clear, and the motion of the heart, though feeble, is rarely tumultuous.

Lastly, the breathing is the first to stop at death, while, in the former case, the heart takes the precedence in this respect.

If then in any given case the practitioner shall find the symptoms referrible purely to obstruction in the trachea or larynx, and the circulation unembarrassed, he will operate with good chance of success, granting that the point of obstruction is not too low, and that no further inflammation succeeds. If, on the contrary, he should diagnose the symptoms of cardiac obstruction, whether or not complicated with constriction in the windpipe, the operation is worse than useless; it will, of necessity, fail, because there are other fatal influences at work which the knife cannot reach, and the most perfect respiration cannot remove.

These same precautions in reference to croup extend to another disease; I mean to diphtheria. In this disorder, as my friend Dr. Milner Barry of Tunbridge Wells has pointed out, fibrinous deposition in the heart is a frequent cause of dissolution, as frequent, I opine, as the obstruction arising from exudative plasma in the windpipe. In considering the propriety of tracheotomy in diphtheria, the same diagnostic rules would apply as in the analogous disease croup.

So much with regard to the acute forms of hyperinosis. In those states where the increase of fibrine is relative, or where there is tendency to deposition from sheer feebleness of the circulation, the rule against depressant measures is the more strongly to be enforced. I can add nothing further in this direction.

We will move from what may be called negative treatment to our third point—the lesson taught by our knowledge, such as it is, regarding a positive course of proceeding for the prevention of deposition. And here, I think, the first great truth which appears is that, to treat disorders marked by hyperinosis successfully, we must treat them by depressants at their early stages only, and must be prepared to move from the depressant system at much shorter notice than is commonly considered necessary. Before there is positively established in the blood an absolute increase of fibrine, I have no doubt that the conditions leading to such increase may be struck down by the use of rational means for the reduction of the force of the circulation; and so sometimes an acute inflammatory disease may be averted by free venesection. But, as it is rare that the practitioner is called to see disease in this early stage, bloodletting is dangerous to recommend as a general remedy. Whither, then, shall we turn to a remedy? We must turn, certainly, to those remedies which, while they reduce the force of the circulation, possess also a solvent effect on the blood. Is mercury such a remedy? I see no reason, either of a physiological or practical kind, to lead me to an affirmative on this question. In its physiological effects on animal organisms, mercury, carried to salivation, produces a peculiar disintegration of blood, but not a fluidity: in many of the cases of acute hyperinosis, in which after death I found large concretions, I trusted throughout to mercury, and gave it boldly, but with no result. The old calomel and opium pill is, therefore, to my mind, a combination deserving its loss of caste. When such a pill does good, I suspect the opium should have the sole credit, if not a little more.

Is antimony deserving of more favour? I believe it is. In a large number of experiments, in which I placed animals under the influence of antimony, I found in every case that the effect of the substance was to maintain a fluid condition of the blood; while common experience confirms that the drug has a power of arresting the force of the circulation. The danger of antimony, indeed, is that it may kill by the very depression which it produces; and its value, to put the opposite, is in proportion to the sthenicity of the disease. Its value, consequently, is limited: add to which, the remedy may be put into the body very much quicker than it can be carried out; so that its administration in excess is a pretty sure way of securing a prolonged convalescence, should the hyperinosis even be checked, and the patient recover.

Salines, what of them and their uses in hyperinosis? In these, I opine, we have not only the oldest, but the best remedies. I speak specially of the vegetable salines. As I have often pointed out, it is a curious fact that the common vegetable acids, citric and acetic especially, act on the blood exactly as the alkalies; they maintain, that is to say, the fluidity of blood. In combination, therefore, these bodies have a rational intention in the treatment of all disorders attended by excess of fibrine, particularly when they are given with a free quantity of water. Given in full and frequent doses (and it signifies, probably, but little which acetate or citrate is chosen) they are, after all, the safest, and, according to our present knowledge, the surest medicines in the diseases under discussion. It is not easy to push them too far; they do not accumulate; they put a gentle check on the circulation; and their transformation in the economy does not apparently diminish the solvent effect produced on the blood by their administration.

The narcotic series of remedies, dangerous as they become in late stages, are invaluable in the early stages of inflammatory disorder. I do not now speak of opium alone, but of the volatile as well as of the stable narcotics. The whole class

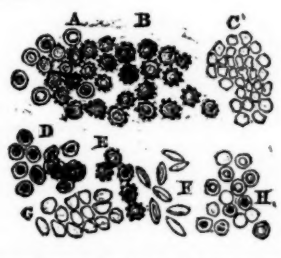
have the physiological property of arresting the oxidation of the tissues, and, as a result, of calming that excitement which is the preliminary and necessary step to hyperinosis. The more rapidly acting narcotic is therefore often the best; and if chloroform, as the most rapid of ordinary narcotics, were a practical remedy—a remedy which could be entrusted to other than medical hands for its administration—it were, I believe, the best antiphlogistic known. I have treated croup at its onset with chloroform by inhalation, with a success such as I have seen from no other plan of treatment. But the effects of the drug must be fully carried out; and, unfortunately for practical utility, the effects must also be sustained, often for many hours, and must be watched with an attention which none but an experienced mind can give. Opium, from being more convenient in its application, has the advantage of chloroform as a presentable remedy; but, as it is so much the less rapid in its action, and so much the more permanent in its effects when these are elicited, it is in a physiological sense so much the less valuable as an active remedy against deposition.

External applications in the shape of counterirritants, blisters and sinapisms, whatever may be their influence on the local lesion, can have no direct influence in preventing deposition. If cantharidin applied to the cutaneous surface be absorbed, it may have an effect on the blood; but whether that is for good or for evil it is impossible to say. I do not make these remarks on counterirritants in opposition to them as local remedies for local affections, but simply to indicate that they are not to be considered as of any avail in meeting the more general mischief present in the inflammatory condition.

Presuming that the practitioner is under suspicion, in a case of acute hyperinosis or in a case of an asthenic kind, that deposition of fibrine is recurrent, what course shall he pursue? I know of but one: it is to give up at once all idea of carrying depletion further, and to throw in ammonia freely but with discretion. The carbonate of ammonia is the remedy usually given; but the liquid ammonia is the most direct and most satisfactory remedy: well diluted, it may be given in doses of five, ten, and by increasing it, twenty drops; and it should be given until it shows itself demonstrably and easily in the breath on the application of the hydrochloric acid rod.

It may be given at the same time that quina or the decoction of bark is given; but in most cases I suspect it forms alone the natural remedy. It is a chemical remedy; that is to say, applied for definite intentions.

But, while I thus recommend ammonia as a remedial measure which has to me proved of most value in the cases under description, and as a remedy which I have often brought into use in the early stages of acute disease, and always with advantage, I warn you that, in prescribing it, its effects must be carefully watched. Carried to an extreme, it produces the very opposite condition to hyperinosis; and then it is no longer a remedy—it is a poison. In one case, recorded in my essay on the *Coagulation of the Blood*, in which five grains of bicarbonate of ammonia were given every two hours, the remedy acted, I fear, as a poison to a certain extent. The patient was sinking, and in some measure comatose, when the administration began; all the excreting processes being much diminished. After death, the odour of ammonia in the blood was most distinct. The blood was dark and thick, but uncoagulated. I collected half an ounce from the right side of the heart, and exposed it to the air for three days: it underwent feeble coagulation, but its true plastic quality was clearly destroyed. The corpuscles, as is common in such blood, were disintegrated, and modified in character; there were some stellate, others oval, others many-sided, others collapsed, as indicated in the subjoined sketch; but not one was of the natural appearance.



A, B, C, E, F, G, Corpuscles modified by the administration of the alkali.
D, Corpuscles healthy, before the administration of the alkali.

Let me, then, renew this precaution relating to the action of ammonia, and extend it to the other alkalies. Indeed, the effects of potassa and soda, carried to the extent of producing the same changes, are more serious than those produced by ammonia; for the volatile alkali, being volatile, can escape more quickly from the system than the fixed alkalies, after its withdrawal; it holds, in fact, as a physical agent administrable to man, the same relation to soda and potassa as chloroform holds to opium or belladonna.

In those extreme cases where the fact of absolute deposition is too clearly demonstrated, what, then, shall be done? Alas! I can at this moment point out no satisfactory solution of this question. The day will come when the veil shall fall from our or our successors' vision; but now we can but grope our way, and pray for the light. I for one know, however, the difficulties in the way; and this knowledge, perchance, may be useful to some one in the future. I will therefore sketch them forth as matter for thought, and aids to future work.

It will occur to you all, that the proceeding to be first considered is the removal of the fibrinous deposit by causing its dissolution. This is a definite proposition; the difficulties in the way are equally definite. In the first place, we possess no agent having a sufficiently rapid solvent action on separated fibrine. When fibrine is as yet in solution in the blood, it is the easiest matter in the world to keep it fluid; the addition of a very small quantity of alkali, say two parts of alkali to a thousand of blood, is sufficient for this purpose. But, when once fibrine has separated, its resolution is a difficult matter. True, it is not less soluble than before; but time is destroyed in the process. If, for instance, a solution be made containing so much as four grains of alkali to the thousand grains of a blood containing two grains of fibrine, a period of at least six hours must elapse before such fibrine would be redissolved. But such an amount of alkali thrown into the mass of blood as would bring that fluid altogether to the alkalinity thus required, would be in itself impracticable, because fatal. Under such alkalinity, the blood-corpuscles would be entirely dissolved.

Again, when deposit is the fact, the administration of alkalies by the mouth is in no way a direct means of effecting solution of the obstructing body. Medicines introduced in this way, granting that they are taken up into the blood at all, which is in truth doubtful, are but slowly carried through the heart, and are brought into contact with the concreted mass at a single point. From such limited exposure we can expect no result.

The administration of ammonia by inhalation in combination with the vapour of water, seems at first a reasonable suggestion. I have tried it both in disease and in experimental work. It fails. Ammonia is not absorbed easily by the lungs; and, as absorbed, it is never present in the blood, passing stroke by stroke through the heart, so as to produce any effect on a deposit of fibrine in this organ.

The injection of alkaline solution into the veins may seem a reasonable project. It is worthy of trial in extreme cases, but I fear it would not succeed. If solution of clot could be determined by this process, I am afraid there would also be determined universal dissolution of the walls of the blood-corpuscles; and an animal without corpuscles in his blood is no longer alive. The first microscopist of blood little knew upon what he had dropped when he beheld these little invisibles. If we could or should at any time light on a chemical body which will dissolve fibrine on immediate contact, without destroying the blood-cells or the coats of the vessels, then we should have a remedy on which we might set our hopes. The difficulties in which the question is involved, by means of this antithesis of argument, will be readily understood.

The observations I have made above are, however, intended to bear entirely on cases of a kind where death is threatened within minutes or hours: in that series of cases where the symptoms extend over a long period, such cases as that recorded by Dr. Sayer and Mr. McNab, a course of treatment by a fixed alkali might possibly be productive of real good. Such treatment is based on philosophical and sound argument.

Returning to extreme cases: would it be possible, when the concretion is on the right side of the heart, to remove it by operation? I will relate an experiment bearing on this point. In one case, where a cat died in oxygen gas, I took the animal out of the box immediately after she seemed to cease breathing, laid bare the right external jugular vein low down in the neck, pushed through it a crochet-needle, passed that into the heart, and brought up to the point of insertion a separated mass of fibrine, which had before obviously filled the auricular cavity. In cases of dying in the human subject, where all is hopeless,

I see no harm in doing a similar operation; the diagnosis of concretion on the right side being clear.

Before I conclude, I have to touch for a moment on a special question which has been specially asked of me. It is this. What are the conditions leading to hyperinosis? To this question I give frankly the answer, that it is at present unanswerable. To approach it even requires a new and extended inquiry into the whole subject of the oxygenation of animals—a point to which I may at some future day be enabled to call the attention of the profession, with a knowledge yet to be learned, and aspirations yet to be realised! *Valete.*

Lectures
ON
THE HISTORY OF MEDICINE.

DELIVERED AT
THE GROSVENOR PLACE SCHOOL OF MEDICINE.
BY
ALEXANDER HENRY, M.D.

Lecture II.

Origin of Medicine. Difficulties of its Investigation. General Characters of the Early Stages of Medicine. Medical System of the Ancient Egyptians. Grecian Legends. Apollo. The Cabiri. Orpheus. Incantations. Melampus. Chiron. Heroes of the Homeric Poems. Æsculapius: Examination of the Myth concerning him. Machaon and Podalirius. The Æsculapian Temples and Symbols. Practice of the Asclepiads. Summary.

In the present course of lectures, I intend to confine my observations principally to the history of medicine as it existed in early ages among the Greeks. This limitation is imposed by the necessities of the case; for the subject is so vast, that a much more extended course would be required to develope the whole history of medicine in a manner which should be at all instructive to you as hearers, or creditable to me as lecturer—even if we rigorously confined our examination to the course of that great medical stream which has steadily flowed down from the earliest Grecian records to our own days. It would be interesting, too, to trace the progress of the parallel but distinct streams in which medicine has flowed in other nations, in India, for example; but this must also be deferred.

In entering on the history of any science, the first question which naturally occurs is—What was its origin? What were the circumstances that first led men to its cultivation? When we apply these questions to medicine, we find ourselves at once unable to answer them in any other way than by conjecture; for the origin of medicine reaches even beyond the period of fable. Yet we may make such conjectures as shall have an air of probability, by keeping in view the parts of man's mental constitution which would be most likely to be called into action in originating a system of healing disease and injury.

The origin of medicine was doubtless connected with the love of health and life, which is instinctive in all. Disease or injury impaired the power of man to act as he had before acted, and produced a feeling of discomfort; still further, disease or injury produced death. The first intimation, then, that these misfortunes were not altogether irremediable, but that means existed by the application of which certain of them might be relieved, would, it may be well imagined, be received with delight; and the lesson taught would be carefully stored up for future application. For, not only would the instinctive feeling of self-preservation be prominent, but also the godlike feeling of compassion for the sufferings of another, the affection arising from the ties of kindred, and perhaps some share of selfishness, would all, apart or together, induce men to seize on every means of relieving disease, and, if possible, of obviating death. The intellectual process was doubtless often one of observation and inference, in its simplest form. A circumstance, ordinary or accidental, was noted, in which a certain cause was followed by a certain beneficial effect; and then the inference was drawn, that the application of the same cause should, in similar cases, produce a similar effect. Let us suppose two or three illustrative instances—highly probable, though purely imaginary.

A man lies tossing in violent convulsions, with large, almost bursting, blood-vessels, starting eyes, and other fearful symptoms. The bystanders are perplexed: they see the danger, but know not how to meet it. At last, blood bursts from the nostrils of the patient, and he is relieved. A man among those standing by draws rapidly the inference that the loss of more blood would be followed by more relief. He therefore makes a gash into some part of the body, so as to draw more blood; and this act is observed to bring back, as it were, life to the patient.

A man eats a portion of some vegetable substance, perhaps more than once, and finds himself fearfully purged. At another time, he is seized with symptoms of a febrile character; a free action of the bowels sets in, and the symptoms are relieved. The same symptoms may again occur in him, or in another man; but they remain intense, for the bowels are constipated. What more natural, than that it should immediately occur to him to use some of that same herb which had before purged him? He takes it, or gives it to his sick friend; relief follows; and a remedy is established.

In such simple manner, doubtless, were the effects of various remedial measures made known to man; and illustrative instances might readily be multiplied.

While we have the subject of the origin of medicine before us, it is interesting to notice the opinion put forth by Hippocrates, in his treatise Περὶ ἀρχαίης ἰητρικῆς, *On Ancient Medicine*. Medicine is there made to be, as it were, a corollary to dietetics.

"The art of medicine", he says, "would not have been invented at first, nor would it have been made a subject of investigation (for there would have been no need of it), if, when men are indisposed, the same food and other articles of regimen which they eat and drink when in good health were proper for them, and if no others were preferable to these. But now necessity itself made medicine to be sought out and discovered by men, since the same things, when administered to the sick, which agreed with them when in good health neither did nor do agree with them." Hippocrates argues further, that this process was the same as that by which man arrived at the knowledge of the ways of preparing food so as to render it wholesome. And he includes this dietetic discovery also under the name of medicine; "since it was discovered for the health of man, for his nourishment and safety, as a substitute for that kind of diet by which pains, diseases, and deaths, were occasioned." These speculations are most ingenious and interesting; and for the full account of them, I must refer you to the Hippocratic treatise from which I have quoted them.

Observation of the effects of certain herbs on animals might also have given hints as to certain remedies. The fable of Melampus, to which I shall afterwards refer, points to this.

The illustrations I have given will sufficiently suggest the manner in which the art of healing may be supposed to have arisen.

In entering on an examination of the first notices we find of the history of medicine, several great difficulties at once oppose themselves to us. In the first place, medical history, like other history, is in its beginning so enshrouded in fable and mythology that it is difficult to always discern the truth. Again, it is very probable that we do not possess all the works of the ancient writers on medicine; and the narratives of the lives and writings of many have failed to reach us. Yet, notwithstanding these and other difficulties which stand in our way, we may, principally from the writings of the poets and historians, form some idea of what was the state of medical knowledge in the mythical or prehistorical period.

In the primitive state of medicine in all countries where we have the earliest account of its practice, there are certain common characters, among which I will enumerate the following:—

1. Disease is popularly looked on as the direct effect of the anger of offended deities, and removable only by propitiation.

2. The origin of medicine for the relief of disease is also attributed to the deities; partly, no doubt, from the idea that the means of removing an evil lay with the producers of the evil; and partly from the exercise of a feeling of honour and gratitude on the part of the people towards those whose medical knowledge had proved the most extensive and most beneficial. Kühn, in his essay *De Philosophis ante Hippocratem Medicinæ Cultoribus*, supposes that the knowledge of the uses of medicines, having been found out piecemeal and principally by accident, in the way which has been imagined in the former

part of this lecture, was handed down traditionally from father to son. In course of time, the amount of knowledge would become greater than ordinary minds could contain; and the art would probably be more assiduously cultivated and more rapidly developed in some families than in others. He, then, who possessed the greatest acquaintance with medical art, and who produced the greatest amount of benefit by the practical application of his knowledge, would be respected by his contemporaries and immediate successors, and would often, in after times, be enrolled among the number of those to whom divine honours should be paid. Such, Kühn supposes, was the case with Æsculapius, the medicine god of Greece.

3. The prevalence of the idea that disease and the cure of disease were of immediately divine source would inevitably lead to the concentration of medical knowledge in the hands of the priests of the several deities who were supposed to have any interest in matters medical. For obvious reasons, the priests would foster the notion, on the part of the people, that the removal of disease could be effected only through their intermediate agency; and thus they would become the repositories of medical knowledge: probably not of all, however; for it is difficult to imagine that the practice of surgery—the treatment of wounds and injuries—did not remain in the hands of the laity. Wounds received in battle, for instance, could certainly not always come under hieratic treatment.

4. In the early ages, medicine was cultivated as one art; there was no division into distinct departments, as obtains in the present day. The Greeks have but one word for a medical practitioner; *ἰητηρ* in Homer, and *ἰατρος* in the ordinary Attic dialect—the word literally meaning a healer.

Before we enter on a consideration of the history of medicine among the Greeks, our attention is first claimed by the state of the science in that remarkable country, Egypt; from which, according to tradition, Greece was indebted for a part at least of her civilisation. Whether the cultivation of medicine, of astronomy, and of other sciences, was altogether indigenous to Egypt; or whether, as seems not improbable, the Egyptians in their turn were indebted for much to the Phenicians, is a question on which the limits of this course do not permit me to enter. I will therefore merely take up medicine as it is recorded to have existed in ancient Egypt, and give a brief sketch of its reputed condition.

The medical system of Egypt was essentially hieratic. Medicine was, we may say entirely, in the hands of the priests; and the divinities of the Egyptian mythology play a prominent part in regard to medicine. Osiris, Isis, Horus, Thoth or Hermes, Apis, Esmun, and Serapis, are each and all, in Egyptian myth, connected with the cause or the cure of disease.

Osiris, supposed to have been the symbol of the sun, was reputed to be the greatest benefactor of Egypt. He was said to have taught the natives agriculture and other useful arts; and to have been slain by Typhon, a fable which is explained by the deleterious effects of the simoom of the desert in destroying the benefits of the sun and Nile.

Isis, supposed to represent the moon, and Horus, the personation of solar influence, were regarded by Egyptians as the causes of many diseases, and the discoverers of many remedies. This idea, if our interpretation of the symbolical character of the Egyptian gods be correct, would be an embodiment of the doctrine regarding the influence imagined to be exerted by the moon and by the periods of the day on the production and changes of disease, and on the properties of medicinal substances. The sick were exposed in the temples of Isis, that they might learn, from revelations imparted in dreams, the proper treatment for their diseases. Bear this in mind, when, in a subsequent part of this lecture, I speak of the practice of the priests of Æsculapius.

Serapis was another great medical divinity among the Egyptians. Anciently, he appears to have been the same as Osiris; but after the conquest of Egypt by Alexander the Great, he was confounded with the Pluto of the Greeks, and had attributed to him the power of curing diseases. The sick frequented his temples; and we meet with a notice of this as far down as the time of Vespasian.

Thoth, whom the Greeks called Hermes Trismegistus, or the Thrice-great Mercury, occupies a very prominent position in ancient Grecian medicine. He is said to have been the friend and secretary, or prime minister, of Osiris; and to have taught the Egyptians the arts of writing, arithmetic, geometry, astronomy, and music; to have given laws to the people, regulated their religious ceremonies, and cultivated the olive in the country for the first time. This myth apparently represents the introduction of these arts into Egypt, probably by Phenicians. To Thoth is attributed also the invention of medicine. At first, his precepts were recorded on columns, to which, it is believed, additions were made by his successors—the priest-physicians with others. This went on for a time, until, when the use of papyrus was found out, the Hermetic knowledge was collected into a book called "Ambres," or "Embres," in which the rules of medical art were comprehended, and the precepts of which the priest-physicians were bound to follow. Diodorus Siculus tells us that, when they followed closely the directions given in the book, they were held free from all blame, even if the patient died; but, if they deviated at all from the precepts, they incurred the penalty of death, even if their practice were successful. It is supposed that this book contained the records of semeiological observations, made by the successors of Hermes; and an ancient author tells us that, "There is among the Egyptian priests a book called the Sacred Ambres, from which they judge of the patient as he lies down, whether he is likely to recover or not, forming their position from the position of the patient." The importance of noticing the decubitus, then, as affording a valuable indication in prognosis, was recognised in very ancient times.

In later ages, after a free intercourse had been established between the Greeks and Egyptians, a large number of writings were attributed to Hermes. These included treatises on anatomy, medicine, diseases of women, diseases of the eyes, surgical instruments, and materia medica. But it is generally agreed, that the works were of comparatively modern origin; and it may not unreasonably be supposed that they were derived in great measure from the writings of the Greek physicians, and attributed to Hermes, the reputed father of the medical art, by the Egyptian priests, for the purpose of giving the writings greater sanctity and importance in the eyes of the people.

What, then, was the state of medical science in ancient Egypt? Here, as in similar instances, our inquiry is impeded by the jealous care with which the priests retained knowledge in their own hands. Their knowledge of anatomy and physiology we may regard as having been very small. For, to touch a dead body with a cutting instrument was a crime; and even the paraschist, or person who made the incision into the body in the process of embalming, was, as Diodorus informs us, obliged immediately to fly, amid a shower of stones from the bystanders. A few of their rude notions have been recorded. The priests imagined, that the heart increased in a certain definite ratio every year up to the age of 50; after which time, it gradually diminished in the same proportion. They believed, also, that a nerve or tendon passed from the little-finger to the heart; and therefore they dipped this finger in the libations at sacrifices.

As regards practical medicine, diseases were popularly regarded as the direct effects of divine anger, and curable only by appeasing the offended deities. Hence the priests were the only physicians of Egypt; and, in their hands, the art of healing became ostensibly a system of religious worship paid to the divinities of the country. And we learn that they took every precaution to keep the people in ignorance; for they disguised the names of the drugs which they used in allegorical language, and medicine was taught as a divine secret to the initiated only. This hereditary transmission of medicine within the order of the priests, and the possibility of entirely veiling all knowledge of the art from the external world, would have the natural effect of retarding all progress; especially when we conjoin with this the rigorous, apathetic character which is attributed to the ancient Egyptians.

While the treatment of disease ostensibly consisted in superstitious ceremonies, we may suppose that in many instances the cure was left principally to Nature; and that much of the active treatment consisted in favouring the evacuations which had been observed to occur in the course of disorders. Of special medicines, we have a few notices. Squill, for instance, is said to have been used in the neighbourhood of Pelusium as a remedy in dropsy; and the *ἀετιτης*, or eagle-stone, a kind of oxide of iron, was employed in the same malady, and in tympanitis. Of their real acquaintance with medicines, however, we know but little.

Of their surgical skill, the records are very scanty. It cannot have been great; since it is stated that the Egyptian priests were unable to cure Darius Hystaspes of a sprained foot, which was, however, successfully treated by a Crotoniat practitioner.

But, in the history of Egyptian medicine, the hygienic rules are the most remarkable; and the study of them is interesting, both in connection with the laws of Moses among the Jews,

and with the precepts taught by some of the Grecian philosophers, of whom we shall have occasion to speak.

The priests themselves were subject to very strict rules of life. Cleanliness was strictly enforced. They were obliged to wash themselves twice by day, and twice at night, and to cut their hair every third day. Circumcision was also practised among them; and we are told that Pythagoras, desiring to become acquainted with the rules of the Egyptian priests, was obliged to submit to this rite. Woollen clothing was forbidden; linen and cotton only were allowed to be used. Their food consisted of vegetables, and of the flesh of those animals which could be sacrificed to the gods. The selection of certain animals was no doubt made, in part, on sanitary grounds; but also from superstitious reasons, the origin of which cannot be traced out. Cows were never sacrificed, because they were sacred to Isis; but oxen were offered—and therefore their flesh was eaten. Swine were not sacrificed; and their flesh was eaten by the priests only once in each year, at the full moon. Fishes and other marine animals were prohibited. Among vegetables, farinaceous legumes and onions were forbidden; the leguminous plants, either because they were difficult of digestion, or because of some unknown mystic reason. Whether wine was permitted is a question which is not altogether decided.

The hygienic rules which guided the laity, although less severe than those to which the priests were subject, were very strict. Even to the kings, a fixed quantity of food and drink was prescribed; and, in the temple at Thebes, an inscribed pillar contained imprecations against Menes, one of the kings, for having broken through the rules of frugality. All the functions, even that of generation, were, as far as could be, subjected to laws, and time was specially fixed for their performance. The children went with naked feet, and ate little but fruits, roots, and the marrow of the papyrus. Every Egyptian was compelled each month to undergo a three days course of emetics, purgatives, and enemata; for, as Herodotus and Diodorus inform us, they imagined disease to arise from excess, and from the retention of undigested food. The result of attention to a hygienic code is shown in the statement of the ancient writers, that the Egyptians were a healthy and long-lived people.

[*To be continued.*]

Original Communications.

MEDICAL CASES.

By C. M. Durrant, M.D., Physician to the East Suffolk and Ipswich Hospital.

Case I. *Hysteric Somnolency.* A young woman, aged 22, was brought to me by her mother, who stated that her daughter had been in the habit, for eight or nine months, of dropping off to sleep constantly during the day; that these attacks would often occur every five minutes; and that, even when walking, she would sometimes stop suddenly and fall asleep. The only history that I could obtain was, that she had been much excited and fatigued by a close attendance upon an epileptic and hysterical sister, and that this somnolency had followed the subsidence of the disease in her sister. She had not been in my room for more than three minutes, when she fell asleep, and remained breathing somewhat heavily for about two or three minutes, when she awoke with a start, and conversed as usual, but as suddenly, during the conversation, she relapsed into sleep, and which recurred six or seven times during the visit. Her countenance was sallow, and her expression heavy and unexcitable; the pupils acted naturally, and were not dilated; she had no headache; the tongue was coated, its edges were indented by the teeth; the pulse was languid, and not accelerated; the extremities were generally cold; the appetite was good, indeed she was always hungry; the catamenia had been suppressed for five months; the bowels were always constipated. She was ordered to use a tepid sponge bath every morning, to be followed by brisk friction; to take a saline mixture, with the compound tincture of valerian; and to take, at night, pills containing calomel, colocynth, colchicum, and croton oil, alternately with pills composed of blue pill, sulphate of zinc, and galbanum. This treatment was continued for some weeks, during which she steadily and uninterruptedly improved in health, and became less somnolent, and ultimately, the catamenia reappearing, her friends reported her well.

Remarks. This case is interesting, as illustrating in a marked degree one of the many phases of the hysterical diathesis. The symptoms were clearly attributable to an over-excited and, subsequently, exhausted nervous system, superadded to the powerful influence of imitation; for, on inquiry, I found that the younger sister, aged 12, in addition to the seizures which appeared to have been epileptiform, subsequently suffered from hysteric somnolency, although in a less marked degree than obtained in the elder. Dr. Copland refers to this form of hysteria, and states, "that the irritation, whether mental, cerebral, or uterine, seems to induce congestion of the vessels of the head." In the above case, the mental excitement, with its consequent exhaustion, engendered both the suspended menstrual function, and also the impeded cerebral circulation.

Case II. *Albuminuria, followed by Atonic Peritonitis and Death. Autopsy.* A. B., æt. 17, a labourer at an iron foundry, was admitted as an in-patient of the Ipswich Hospital, March 14th, 1860. On admission it was stated that he had been ill only a fortnight; that he had taken cold, and that he had been swollen "all over" since the attack.

On examination, the nature of the disease was at once apparent. His face was pallid, pasty, and swollen; the eyelids were œdematous; the feet and legs very much swollen and pitting; the integuments of the abdomen were anasarcous, with an indistinct sensation of fluctuation in its cavity. The tongue was tolerably clean; the pulse feeble, not accelerated; the bowels were confined; the urine was diminished in quantity, and becoming almost solid on the addition of heat and nitric acid. The heart's action was feeble, but the sounds and rhythm were unaffected, respiration was accelerated, with some œdematous crepitation at the base of the left lung.

He had ridden to the hospital in an open cart, the day being very cold. He was at once sent to bed; and as the dropsy was of such recent occurrence, he was ordered to lose a few ounces of blood by cupping over the kidneys. In addition to this, citrate of ammonia, with spirit of nitric ether, was prescribed.

March 15th. He was much in the same condition. The difficulty of breathing was increased, which appeared to be rather the result of increasing debility than of additional effusion. The bowels had acted several times very copiously without aperient medicine; the stools were bilious and watery. Pulse feeble, but not much accelerated. He was ordered to have two ounces of gin in water.

March 16th. The purging continued. The œdema of the face was quite gone. The urine was much less albuminous. His debility had increased. The tongue was getting brown and dry. Some tenderness was complained of on pressure over the abdomen. He was ordered sesquicarbonate of ammonia, bicarbonate of soda, with tincture of opium, with chalk mixture in addition, if necessary; and to take half an ounce of brandy in water every four hours. The abdomen was ordered to be fomented, and twelve leeches to be applied if the tenderness continued.

March 17. The abdominal tenderness was much increased; the purging was diminished. The leeches had been applied without relief. The tongue was dry and brown; and there were sordes on the teeth. Pulse 120, very feeble. There was no abnormal heat of skin. A blister was ordered to be applied to the abdomen, and he was directed to continue the brandy every two hours. Beef-tea had been taken freely from the commencement.

March 18. All the symptoms were much worse. He still complained of great pain and tenderness of the abdomen, which the blister had not relieved. He took the brandy and beef-tea without difficulty. The purging was much diminished. He was ordered one grain of opium immediately, to be repeated every four or six hours, if necessray.

The abdomen became tympanitic; and he gradually sank exhausted on the following morning, the brain remaining unaffected to the last.

Autopsy. The abdominal cavity contained a considerable quantity of sero-purulent fluid; the peritoneal covering of the intestines showed patches of inflammation, but not of a plastic character. This was more particularly evident on the surface of the larger bowels. The peritoneal reflexion over the bladder and walls of the pelvis was evenly coated with a thin layer of pus. The same secretion existed also upon the serous covering below the liver, as well as upon the abdominal wall generally of the right side. The intestines themselves, with the

exception of the peritoneal coat, were healthy. The appendices epiploicæ of the colon were unusually large. Both kidneys were granular, but the left was both larger and more generally diseased than the right. The chest and head were not examined.

Remarks. From the granular condition in which the kidneys were found in the above case, it is probable that the primary disease had been of longer duration than a fortnight, as stated by the patient and his friends. The exposure to which he was subjected in his journey to the hospital was amply sufficient to give rise to the two secondary diseases consequent on the albuminuria, viz., diarrhœa and peritonitis.

Diarrhœa is not a very common secondary disorder attendant upon granular disease of the kidney in this country. In Scotland, however, according to Dr. Christison, as well as from my own observation, diarrhœa is a very common secondary attendant upon this disease, often proving, as in the present instance, a very exhausting, obstinate complaint, and under which the patient not unfrequently succumbs.

Of the secondary inflammation attacking the serous membranes, the order in which they most generally obtain, are pleuritis, then peritonitis, and least commonly pericarditis. In the above case, from the impoverished condition of the blood, the inflammation was of a very low character, as evidenced by the absence of all fibrinous adhesions, as well as by the thin, semi-formed condition of the pus, which was found spread over the peritoneal lining of the different portions of the abdominal walls.

Transactions of Branches.

MIDLAND BRANCH.

TWO CASES OF GANGRENE AFTER INJURY, IN WHICH AMPUTATION WAS SUCCESSFULLY PERFORMED.

By A. H. Dolman, Esq., Derby.

[*Read March 22nd*, 1860.]

Having seen within the last six months two cases of gangrene, one of the foot, the other of the hand, in which amputation was performed, I thought a slight account of the two cases would not be uninteresting to you. The importance and anxiety inseparable in these serious cases cannot be overstated, for there is inevitable loss of limb, and very frequently, sad to relate, loss of life.

Both these patients are of the same age (40); and both were in good health up to the time of their respective injuries; and, I am happy to say, that although each has lost a limb and undergone a great amount of suffering, they are quite well.

Case I. Thomas Maddox, aged 40, a greengrocer, residing in Derby, was admitted into the Derbyshire General Infirmary, under the care of Mr. Gisborne, September 24, 1859. He was walking by the side of his horse and cart, when the former suddenly took fright, and ran away. Maddox, in attempting to stop the horse, was knocked down, and one of the cart-wheels passed over both thighs. The vehicle was loaded at the time. He was brought a distance of nine miles to the infirmary; and, on examination being made, he was found to be suffering from comminuted fracture, with great displacement, of the left femur at the junction of the lower and middle thirds. He had also received a severe laceration of the right thigh. There was considerable spasm, and strong contraction of the muscles of the fractured limb. When this had subsided, the fracture was reduced; and a long straight splint was applied in the usual manner. He went on very well till the 27th (the third day), when he complained of pain about the calf of the leg; the bandages were cut open, and some cooling lotion was applied.

Sept. 28th. The toes were rather dark coloured, and the thigh was enormously swollen, tense, and of universal dark brown colour, more particularly at the inner aspect, over the course of the vessels. The splint was removed, and the whole limb enveloped in cotton-wool. The temperature of the foot was rather low; but that of the leg and thigh was high. There were no marks of constriction on the limb, and no signs of the bandage having affected the circulation. A grain of opium was given to relieve the pain, and repeated when necessary.

Sept. 29th. A linseed poultice was applied to the thigh. The opium was ordered to be repeated twice a day.

Sept. 30th. He slept pretty well. The foot, anterior to the instep, was very dark coloured. He was ordered to have a pint of porter daily. The opium was repeated, and an ounce of cinchona mixture, with ammonia, was ordered to be taken three times a day.

Oct. 10th. He was somewhat weaker than he was at the date of last report. The anterior portion of the foot was gangrenous. The line of demarcation was tolerably distinct, just as if Nature was going to perform Chopart's operation. He was ordered four ounces of wine daily; and an ounce of compound tincture of cinchona, and sixteen grains of disulphate of quinine were added to each pint of his mixture.

Oct. 13th. He was directed to have brandy when required.

Oct. 14th. The leg was swollen very much; fluctuation was perceptible opposite the calf. A free incision was made, and an immense quantity of offensive sanious matter, mixed up with air, was let out.

Oct. 20th. The foot was almost off; the leg was discharging enormously; the thigh was somewhat reduced in size, though still in an unhealthy state. It was evident that amputation of the limb was the only chance, but the condition of the thigh did not admit of it at present. There was considerable shortening, in consequence of the fracture being oblique, and as extension could not be applied.

Oct. 27th. The thigh being reduced in size, it was decided, on consultation, that the limb should be removed. Chloroform having been administered, a thorough examination was made; it was found impracticable to operate below the knee. The limb was amputated just above the seat of fracture. A modification of Teale's operation was adopted; the difference being a long round anterior flap, instead of a rectangular one, the posterior short flap being cut accordingly. The stump was sewn up with iron sutures. His diet was not interfered with.

Nov. 1st. On dressing the stump, a large quantity of thin offensive matter was evacuated.

Nov. 3rd. I removed the sutures; and, as the stump was large and rather flabby, placed a bandage round it.

Nov. 11th. The stump had been dressed every other day since the last date. This morning, the ligature on the femoral artery came away.

Nov. 25th. He was still going on well; the stump was nearly healed. He was allowed to get up.

Dec. 1st. A small abscess formed on the posterior flap; it was opened with a bistoury, and a poultice was applied.

Dec. 19th. He was discharged cured.

On examination of the amputated limb, no lesion of the vessels or nerves could be detected. The coats of the posterior tibial artery (traceable to the internal malleolus) were thickened, and there was a good deal of deposit in the sheath. The anterior muscles of the leg had sloughed away, leaving the bones quite bare.

Case II. Henry Whiting, aged 41, a labourer, residing at Doveridge, was admitted into the Derbyshire General Infirmary, January 3rd, 1860. Four days before admission, his right hand was drawn between the cogs of a thrashing machine, which inflicted, according to his statement, severe lacerations both on the dorsal and palmar aspects of the carpus. Medical assistance was soon procured, and the wound was stitched up. On admission into the Infirmary, the whole hand was found to be gangrenous, though there was no distinct line of demarcation. The arm was swollen and erythematous, with streaks of a dark colour extending up to the shoulder. Chloride lotion was applied to the hand, and oil to the arm; the whole was then enveloped in cotton-wool. He was ordered to have a pint of porter daily, and good diet. A draught of cinchona mixture with ammonia was given three times a day; and a grain of opium every night.

Jan. 4th. A great deal of offensive discharge from the hand took place. A large linseed poultice with charcoal was ordered to be applied, and frequently changed.

Jan. 11th. The line of demarcation was distinct; the whole arm was still inflamed, and tender to the touch.

Jan. 17th. As the arm was nearly reduced to its normal size, and there were healthy granulations at the line of demarcation, it was decided that amputation should be performed. Chloroform being administered, the limb was removed at the middle third of the forearm, by the flap operation in the usual way. Four arteries were tied. The stump was left open for a few hours; when it had become glazed, three wire sutures and a few narrow strips of plaster were applied. No change was made in the diet.

Jan. 20th. The stump was dressed. The arm looked inflamed.

Jan. 22nd. The stump was dressed. An hour afterwards, slight hæmorrhage occurred; it ceased spontaneously. The arm was ordered to be raised, and to be kept wet with spirit lotion. Oozing from the stump again occurred in the evening.

Jan. 23rd. ℞ Misturæ cinchonæ cum acido Oi; quinæ disulph. gr. xvi. M. Sumat ʒi ter die.

Jan. 24th and 25th. Slight bleeding occurred. These repeated slight hæmorrhages began to affect his general health; his appetite failed, he lost sleep, and became watchful and very nervous. The pulse was very rapid and jerking. His bowels were tolerably regular. He had been taking a grain of opium every night all along.

Jan. 26th, 1 A.M. Bleeding came on again. I was called up to him, and found that it was more profuse than it had been before; it was arterial, but no decided jet could be discovered. The stump was very sensitive. I applied tincture of sesquichloride of iron, and placed a pad of lint on each flap, with bandage over, carrying the latter up the arm to the shoulder; a long pad was also applied over the course of the brachial artery.

7 P.M. Profuse arterial hæmorrhage again occurred. On exposing the stump, it looked like a sponge dripping blood. I applied pressure to the brachial artery.

Jan. 26th. It seemed clear that nothing but ligature of the brachial artery would be successful; so I communicated with Mr. Gisborne. He was very much engaged, and wished me to tie the artery, which I did (ably assisted by my friend Mr. H. Wade) at the middle third, where the median nerve crosses over the vessel. When the ligature was tightened, it entirely controlled the hæmorrhage from the stump. The wound over the artery was sewn up with iron wire. Chloride lotion was applied to the stump.

Jan. 27th. He was going on well. He was ordered to have three ounces of wine daily, and eggs or anything light and nourishing he might fancy.

Jan. 28th. The stump was improving, looked much cleaner, and was less offensive.

Jan. 30th. I opened an abscess which had formed near the elbow. The wound on the upper arm was looking well, and promised to heal thoroughly by first intention.

Feb. 6th. The ligature of the brachial fell off. The stump was clean; but the granulations were flabby and pale. It was strapped up.

Feb. 14th. He was improving in every respect, but unable to get up; for, as soon as he was raised, free oozing of blood from the abscess occurred.

℞ Tincturæ ferri sesquichloridi ʒiv; tincturæ hyoscyami ʒiv; infusi calumbæ ʒxv. M. Fiat mistura cujus sumat ʒi ter die.

The granulations of the stump and near the abscess were ordered to be touched with sulphate of copper, and to be dressed with compound tincture of benzoin daily.

March 1st. He had been up for several days, and was gaining strength rapidly.

March 14th. The stump was quite healed; he was improving daily. Wine was omitted. After this he went on well, and was discharged cured on March 26th.

Remarks. What was the cause of gangrene in these two cases? Of course the injury was the original cause. In the first case (I mean Maddox's), I think that, as the symptoms came on about the fourth day, and there were no marks of compression or signs of lesion of the great vessels or nerves, we may attribute the gangrene to severe and violent inflammation. The vast size and extreme tension of the limb gave strong evidence of extreme inflammation of the cellular tissue. In the second case, we have altogether a different process. The whole hand had become gangrenous on the fourth day; and I feel no doubt that the original injury destroyed both ulnar and radial arteries, and at the same time so tore the integuments that collateral and cutaneous circulation could not go on. Hence the result.

Royal College of Physicians. At the Comitia Majora, held on Monday last, the following Fellows of the College were duly elected Members of Council:—Dr. Alderson, Dr. Bence Jones, Dr. Basham, and Dr. Goodfellow.

Progress of Medical Science:
AT HOME AND ABROAD.

ANATOMY AND PHYSIOLOGY.

OBSERVATIONS ON DIGESTION, MADE ON A CASE OF FISTULOUS OPENING INTO THE SMALL INTESTINE.

Professor Busch, of Bonn, has availed himself of the opportunity afforded by a case in which a fistulous opening into the intestine existed, of studying several points in regard to the physiology of the digestive process.

A woman, aged 31, in the sixth month of her fourth pregnancy, was tossed by a bull, one of whose horns lacerated the abdominal wall. At first, there seemed to be no injury of the intestine; but, at the end of three days, a perforation appeared, resulting in the establishment of an opening through which food escaped. In six weeks, the woman, although she ate much, had become extremely emaciated and weak. She was then taken to Bonn. Between the umbilicus and the pubes, there was an aperture in the abdominal walls more than an inch and one-fifth in length, the bottom of which was formed by the posterior wall of the intestine; the upper and lower ends of the intestine were represented by two orifices at the angles of the wound. The position of the wound, the size of the intestine, the existence of valvulæ conniventes in large number, the fluidity of the chymous material which exuded from the upper end, and its grass-green aspect, led to the inference that the injury had affected the upper third of the small intestine. Nothing whatever passed from the upper to the lower opening; and several attempts to establish a communication proved fruitless. The patient was allowed to eat as much as she wished; but, as this was not sufficient, food—principally protein, as soups, eggs, etc.—was thrown into the lower opening; frequently, also, pieces of cooked eggs and meat were thrust into it by the finger. Her general health improved under this treatment; and, after a time, the supply which she received by the stomach was sufficient.

Hunger. The patient at first had a most voracious appetite; she never felt satisfied. She continued to eat, even when the first portions of food which she had taken were escaping through the opening. She then would say that she felt better, but was still hungry. Professor Busch infers that hunger is composed of two separate sensations; one general, the other local; the former resulting from the want of material to repair the waste of tissue.

Movements of the Intestine. The bottom of the opening was formed of a long portion of the posterior wall of the intestine, the anterior wall having been destroyed by gangrene; there was also a large ventral hernia, the coverings of which were so thin that the least modification in the size of the intestine was as clearly perceived as if it had been laid bare. During the ordinary peristaltic movements, it was not possible to observe any difference between those which took place in the portion of intestine covered by skin and in that which was exposed to the air. When, on the other hand, the upper part of the intestine became invaginated in the opening, this portion contracted much more actively, and was sometimes the seat of a tonic contraction, which stiffened and raised it like a solid body.

The intestinal movements were not continuous; there were often intervals of complete rest during more than a quarter of an hour. During these intervals, neither exposure of the part to the temperature of the room, nor the careful introduction of the finger, would excite peristaltic action; even the taking of food would not excite it at once. There was no regularity in these intervals of action and rest, except during part of the night. Up to 10 or 11 P.M. there was a flow of chymous material or of liquids from the upper end of the intestine, so that, at first, the patient was always wet in spite of all care. No discharge then took place until 4 or 5 o'clock in the morning. When she made a hearty supper, a part escaped at once; but the rest remained in the digestive canal

until the next morning. This pause in the intestinal action did not arise from sleep, for it was observed when the patient lay awake at night; and the matters escaped in the day time while she slept as well as when she was awake.

The escape of the matters contained in the intestine was not continuous, but jerking; and a propulsive movement of the intestine was even observed in the neighbourhood of the opening. It is possible, however, that this was only the result of the adhesion of the intestines to the abdominal wall, which furnished a *point d'appui*.

Reversed peristaltic movements existed, and frequently impeded the experiments. Thus the aliments introduced into the lower opening of the intestine were often rejected after some hours, and fatty matters even after some days.

Observations on the Lower End of the Intestine. *The Intestinal Juice.* As the lower end of the intestine received nothing whatever from the upper end, it was possible to study in it the intestinal secretion in its pure state. The quantity of this, in the physiological condition, was not great. On introducing a bivalve speculum, the intestinal mucus could be plainly seen between the valves; it was white, or of a very slight rose tint. Sugar, tied up in a net bag, and introduced into the intestine, was not completely dissolved in a quarter of an hour. Under pathological irritation, the quantity of juice was increased; this was ascertained on two occasions. It was then thick and consistent. The reaction was always alkaline. The quantity of solid matter contained in it varied, according to numerous observations, from 7.4 to 3.87 per cent.; the mean being 5.47 per cent.

Digestive Action of the Intestinal Juice. The digestive property of the intestinal juice has been denied by some, while others have, correctly, admitted it. At the commencement of the treatment, the state of the patient began to be improved only when she was fed through the lower opening of the intestine. Into this were introduced soup, beer, gruel, hard eggs, and meat cut into small pieces. During the six weeks previous to her entrance into the hospital, the woman had only two small, hard stools. After being fed in the way above described, she had at first an abundant evacuation every twenty-four hours; but later it became necessary to use enemata. The evacuations resembled ordinary fæcal matter in form and consistence; but the colour was greyish white, and they emitted a repulsive putrid odour. No portions of egg nor of meat were found in them.

In order to study the digestive action of the intestinal juice on different foods, a weighed portion of food was enclosed in a net bag, and introduced into the intestine through a speculum. To ascertain the quantity dissolved, the loss of solid matter was sought. For this purpose, a known quantity of the same food was dried, and the amount of solid matter estimated; from which, on drying at the same temperature the portion removed in the bag, it was easy to calculate the loss which the latter had sustained.

Protein Matters. Coagulated albumen and cooked meat always lost substance; and the morsels, when drawn out, presented traces of decomposition. The angles of the cubes of albumen were rounded, and the surface had a cheesy aspect, and peeled off in grumous masses when washed with water; the meat was flabby, soft, and pale. The masses had a penetrating putrefactive odour; and the presence of hydrochloric acid evolved ammoniacal vapour. This was not the result of ordinary putrefaction from moist heat; for none of the experiments lasted above seven hours, and decomposition commenced at an early period. The cause can only be sought for in a peculiar ferment furnished by the intestinal juice. Of albumen, the percentage quantity digested varied from 35.35 in six hours and a half to 6·5 in five hours and a quarter; that of meat varied from 29.9 in seven hours to 5.5 in five hours.

Starch and Sugar. Starch, dried at 212°, was introduced. The percentage loss varied between 63.53 in five hours and a half, and 38.5 in six hours. After injecting a solution of starch into the lower end of the intestine, the stools were found to contain neither starch nor sugar, but only traces of dextrine. The starch underwent conversion into grape-sugar, which was always found in the bag. Cane-sugar was not changed into grape-sugar; a large portion was found in the fæces in the state of cane-sugar, and the urine contained no trace of it.

Fats. These were submitted to experiment on two occasions. On the first, more than three ounces (avoirdupois) of melted butter were introduced, in small portions, into the intestine. After ten days, the patient spontaneously had a white very fetid stool, of the consistence of *bouillie*. On being examined, after cooling, it was found to be covered by a layer of solid fat; the subjacent portion, under the microscope, appeared chiefly composed of large fat-drops and fat-crystals, mixed with epithelial cells. The evacuation had an acid reaction; and the vessel in which it had been treated by ether evolved an odour of butyric acid. A little more than one-sixth of the quantity of fatty matter administered was found. A large portion, however, of the butter had been expelled from the intestine by reversed peristaltic movements; so that probably little or none of it was absorbed. The second experiment, which was made at the end of a fortnight, with cod-liver oil, gave precisely the same result.

Observations on the Upper End of the Intestine. Alimentary matters, contrary to the general supposition, did not remain long in the stomach. In the morning, when the intestine was empty, the peristaltic movements expelled frothy mucus. On giving food which could be readily recognised, the first portions appeared at the opening in about a quarter or half an hour; and, after a copious meal, three or four hours were sufficient for the expulsion of the whole.

The reaction of the mixture of digestive fluids, expelled in the fasting state, was almost always neutral, rarely faintly acid or alkaline. The intestinal juice, when carefully washed from the fistulous opening, was constantly found to be alkaline. After a meal, the chymous mass gave very variable reactions; at first, protein compounds seemed to produce an alkaline or neutral liquid, while fat, starch, and sugar, gave an acid one; but repeated observations showed so great variations in these respects, that no fixed result could be arrived at.

The solid aliments contained in the chyme did not appear much changed on simple inspection; but, on touching the surface of coagulated albumen and pieces of meat, they were found to be more friable than in the fresh state. The muscular fibres of meat were divided both longitudinally and transversely, as is already known to be the case; and this was observed more when the meat had been very finely cut up. These solid alimentary matters floated in a large quantity of biliary fluid; but, after the eating of large quantities of cabbage, turnips, and potatoes, a small layer of liquid separated only after the mixture had been allowed to rest a considerable time. Whenever the diet during the day was confined to a single article of food, the chymous mass was more consistent towards the evening than in the morning; while, after a variety of food, the quantity of liquid was the same at different hours.

After the injection of feculent food, the chyme contained a large amount of starch and sugar; while, after cooked protein compounds, a slight turbidity was very rarely produced on boiling the liquid.

The digestive fluids were rejected in such a mixed state, that no definite result could be derived from their examination. The absence of indications of the presence of sulphocyanide of potassium showed that saliva was not present. Besides bile and pancreatic juice, there must have been a large amount of fluid supplied by the stomach, for the total sum of solid matters was very small; the average was 2.48 per cent., the extremes 2.56 and 2.34. This is remarkable, since in man the gastric juice itself gives 3 per cent of solid residue.

Cane-Sugar. After having ascertained that the fluids passed from the opening in the morning, when the patient had been confined to an exclusively animal diet on the preceding day, gave no reaction with the potash and copper test, she was made to take, fasting, solutions of cane-sugar. In the fluid which escaped, only a small part of the sugar was found—as grape-sugar, never as cane-sugar. This observation confirms the opinion of M. Bouchardat.

Raw Albumen. In the morning, the albumen of four eggs, beaten up with a little water, was given to the patient. After four hours, there was collected a moderately large quantity of an alkaline liquid, thready, mixed with bile, and containing no coagulated albumen. If the gastric juice had solidified this substance, portions of it would have been found. The quantity of albumen excreted was found to be 36 per cent. of the amount taken in.

Gum Arabic underwent no change, and escaped almost entire from the opening.

Gelatine. Of this substance, nearly two-thirds were absorbed; the remaining third, which escaped, had the ordinary chemical characters, except that it did not gelatinise, and that its warmed solution was rendered turbid by acetic acid.

Milk. After milk had been taken, an acid liquid escaped, in which the casein had been coagulated by the acids of the stomach, not in large masses, but in fine particles. The filtered liquid contained a portion of uncoagulated casein.

Fats. A large dose of cod-liver oil was given to the patient

in the morning; and, on each occasion, the quantity of liquid that escaped was relatively very large. Its reaction varied; most frequently it was acid, rarely alkaline. In the latter case, the fat was so finely divided that it could not be recognised by the naked eye; but, under the microscope, oil-globules were found in the molecular state. When the reaction was acid, the greatest part of the fat formed a similar emulsion; but on the top there floated a smaller quantity of oil, in large drops. When he alkaline emulsion had been kept during twenty-four hours, it became acid, and a part of the oil floated on it in large drops.

Digestibility of certain Articles of Food. Professor Busch endeavoured to obtain information on this subject by examining the quantity of ingested aliment which arrived at the opening in the upper part of the intestine. In one experiment, in which two ounces of sugar were taken, only one-thirtieth part reappeared; in another, in which three ounces were taken, one-fifteenth was found. Of albumen, the proportion of the quantity absorbed to that found in the discharged chyme was as 7 to 4; of gelatine, almost as 2 to 1.

Professor Busch has drawn up a table which shews the proportion between the weight of the material ingested and that of the chyme thrown out.

	Food taken.	Chyme.
Fat	1	6
Gelatine	1	3.675
Boiled eggs	1	2.73
Meat	1	1.73
Milk	1	1.25
Turnips	1	1.2
Cabbage	1	0.91
Potatoe-soup	1	0.7

With regard to the latter two articles, the quantity of juices secreted is too small to make up for the loss caused by absorption into the stomach and the commencement of the small intestine; while fat and gelatine give rise to a considerable secretion of fluid.

In examining the relation between the quantity of solid matter taken in and that found in the chymous mass, the loss representing the quantity absorbed, the following results were arrived at:—

	Solid matter taken in.	Solid matter rejected.
Gelatine	1	0.94
Boiled eggs	1	0.76
Milk	1	0.62
Cabbage	1	0.58
Potatoe-soup	1	0.53
Turnips	1	0.49
Meat	1	0.35

Although these numbers cannot be supposed to possess an exact mathematical value, they nevertheless afford important instruction.

Two experiments were made during periods of twenty-four hours; once with a varied animal diet, and at the other time with a mixed animal and vegetable diet. As far as the results of these experiments shewed, the amount of matter absorbed from the mixed diet was about ten times as great as that absorbed from the purely animal diet. While the patient was taking the animal diet, the matters which escaped from the opening consisted at first (as always) of a liquid in which floated fragments of meat and of egg; gradually, however, the quantity of fluid diminished, the mass became more consistent, and at last, especially on the following morning, there escaped a mass having the appearance and smell of pure fresh meat, not coloured by bile. Under a mixed diet, the chyme preserved its liquid consistence throughout; except in the middle of the day, when it became more consistent after the patient had taken some legumes at dinner.

Digestive Properties of the Fluids discharged from the Small Intestine. In the course of his researches, Professor Busch observed that the liquid which escaped from the opening, especially after the ingestion of protein aliments, passed very slowly through the filter; and that the fragments of meat and egg continued to diminish in size while lying on the filter, so that at the end of the operation small portions only of solid matter were left. This proved that the digestive influence of the mixture of gastric, pancreatic, and intestinal juices, and bile, was exerted on the protein compounds from the commencement of the small intestine; and this occurred, whatever was the reaction of the fluid. But the aliments had been in contact with pure gastric juice in the stomach: it was therefore interesting to ascertain whether the mixture of digestive juices possessed equal power on food plunged directly into it. Experiment on this point showed, that coagulated albumen and roast veal, placed for a period varying from six to eight hours, at a low temperature, in contact with the alkaline fluid which escaped from the fistula after the ingestion of fluid albumen or of meat, lost a small quantity of solid matter, and were slightly disintegrated. But this action was incomparably less than that which was exerted by the mixed juices on matters which had been submitted to the action of pure gastric juice. It follows from this, that alimentary matters leave the stomach while imperfectly digested, and that their digestion is performed in great part in the intestines. (*Archiv für pathologische Anatomie und Physiologie*, Band xiv; and *L'Union Médicale*, 15 et 20 Mars, 1860.)

ON THE WATER IN THE BRAIN-SUBSTANCE.

M. Marcé has made some observations on the proportion of water in the white and grey substances of the brain, and on the power which the organ possesses of absorbing fluid.

In order to determine the normal quantity of water contained in the cerebral substance, the white and the grey matters were separated, then dried and weighed. The following were the general results of experiments made on the brain of man, the sheep, calf, ox, rabbit, pheasant, and owl. 1. In the healthy state, the grey substance in man contains 80 per cent. of water; while the white substance contains 70 per cent. 2. In animals, the figures vary; but in all there is a greater proportion of water in the grey substance than in the white.

In order to ascertain whether the brain can absorb water and become œdematous, M. Marcé injected brains with pure water, and then dried them; and also steeped portions of cerebral substance in water for twenty-four or forty-eight hours, or even longer. He found that brain-substance (not dried) was capable of absorbing half its own weight of water. He also dried brains in cases where the membranes were infiltrated with serum, and found, especially in the grey matter, that the percentage of water was 85 or 90, instead of 80.

The fact that the brain is capable of absorbing water is regarded by M. Marcé as of pathological importance. In comparing the weight of the two hemispheres, it must not be forgotten that a simple serous infiltration may so increase the weight of one hemisphere as to cause the other to appear atrophied. The symptoms of cerebral compression attributed to serous effusion are produced not only by the effused liquid, but by the increase of the brain arising from the absorption of fluid by the grey matter. Finally, the drying of the brain-substance, as the means of recognising œdema, ought to be applied in pathological inquiries; and, in this way, we may perhaps arrive at an explanation of some of those cerebral phenomena which have been classed as neuroses. (*Journal de la Physiologie*, Janvier 1860.)

EFFECTS OF IRRITATING OR REMOVING THE MEDULLA OBLONGATA OR SPINAL CORD.

In the *Journal de la Physiologie* for January 1860, Dr. Brown-Séquard seeks to shew that all the results observed to follow entire or partial removal of the medulla oblongata may be produced when no portion of this part of the nervous system has been removed; and that the entire medulla oblongata may be taken away without producing any of the effects which are attributed to its removal.

With regard to the heart, Dr. Brown-Séquard finds the following results:—1. Irritation of the spinal cord in the cervical region sometimes produces a remarkable diminution, and even an arrest, of the movements of the organ. 2. The nearer to the medulla oblongata the irritation is made, the more frequent is this effect on the heart. 3. Irritation of the medulla oblongata itself, not at the so-called vital point (*nœud vital*), but near the emergence of the roots of the pneumogastric nerves, produces, more frequently than irritation of the spinal cord, arrest of the heart's movements. 4. Diminution of these movements is never produced on irritating any part of the cord in the neck or of the medulla oblongata, after the pneumogastric nerves have been divided. 5. Removal of the medulla oblongata or of the cervical portion of the cord very frequently does not produce immediate diminution of the action of the heart.

As to the respiratory movements, the author finds that, in certain cases and in certain animals, they go on after the removal of the medulla oblongata. This has been observed in

crocodiles by Dr. Bennett Dowler of New Orleans; by Dr. Brown-Séquard in birds; and by Drs. Richardson and Brown-Séquard in newborn mammalia. On the other hand, irritation of the medulla oblongata or of the neighbouring parts often does not produce suspension of the respiratory movements. Besides, he has often found that irritation of the spinal cord near the medulla oblongata does not produce the respiratory movements of the nostril and face, which are observed in the ordinary death-agony.

In the death-agony, the epileptiform convulsions may be very feeble, or entirely absent, in animals in which the medulla oblongata has been removed. The convulsive movements are seldom if ever present under the following circumstances:—1. When the blood in the veins is red (indicating diminution of carbonic acid); 2. In death by syncope, in cases where the motion of the heart is more or less completely arrested by galvanism of the pneumogastric nerves or by crushing the semilunar ganglia, etc.; 3. Where a prolonged disease, a hæmorrhage, or exhaustion from violent galvanism, have caused a remarkable diminution in the excitability of the cerebro-spinal axis. According to Dr. Brown-Séquard, the convulsions or rigidity which generally take place at the moment of dividing the cord have the effect of exhausting it in such a way as to prevent the occurrence of convulsions in the death-agony. In some animals, however, especially in rabbits, removal of the medulla oblongata produces neither convulsions nor rigidity. Dr. Brown-Séquard explains this by saying that death does not take place here by asphyxia, but by syncope; and that convulsions do not occur, because they are dependent on the circulation of black blood, for which asphyxia is necessary.

Reviews and Notices.

On Diseases of the Throat, Epiglottis, and Windpipe; including Diphtheria, Nervous Sore-throat, Displacements of the Cartilages, Weakness of the Voice and Chest; their Symptoms, Prognosis, and Treatment. By George D. Gibb, M.D., M.A., Member of the Royal College of Physicians, London; Licentiate of the Royal College of Surgeons in Ireland; Physician to the St. Pancras Royal Dispensary. Pp. 182. London: Churchill. 1860.

This little book will, we think, prove useful to the busy practitioner, inasmuch as it treats of a considerable variety of subjects—the separate chapters amounting to thirty-two in number—in a concise yet tolerably complete style. The material for the work has been gathered mainly from the personal experience of Dr. Gibb; who has for some years, as he informs us in his preface, devoted considerable attention to the diseases of the throat and windpipe, and who has himself felt the necessity of a special work on the subject.

Besides the ordinary topics with which one would expect to meet in a work on throat-disease, there are some points which Dr. Gibb appears to have the merit of first directing special attention, or at all events, of having been one of the first to do so.

The tenth chapter has the somewhat singular heading "Saccharine Throat." This state is described by the author as connected with a morbid change which he holds to take place in some individuals, consisting in the conversion of the saccharine element or amyloid substance into fat and its compounds, which either become deposited in excess in various parts of the body, or cause fatty degeneration of the tissues, with an atheromatous state of the blood-vessels.

"In individuals so circumstanced," says Dr. Gibb, "but especially when this form of malady is present in the middle-aged, a dry throat and husky voice are oftentimes concomitant, the result of the changes going on in the vocal apparatus, as well as in other parts of the body. Occasionally there is a preternatural secretion from the faucial mucous membrane, which, if examined, is observed to be covered with a thin layer of gelatinous matter, in which the fatty element predominates. When this secretion is removed, the fauces and mouth, in some individuals, are observed to be very greasy, the mucous follicles are slightly prominent, and would seem to pour out an oily fluid. The patient's tongue is slightly furred, and he tells you that he has a sweet taste in his mouth, and that when he eats his food, it not unfrequently tastes as if sugar was mixed with it. He frequently hems very loudly to clear his throat, and occasionally the noise is of a barking or cracked character. This, in reality, depends upon what has been erroneously termed early ossification of the cartilages, but which consists of a calcareous degeneration with a mixture of the adipose, or perhaps atheromatous element. The face has a greasy aspect, the nose and both upper and under lips seem as if slightly swelled, the eyes are bright and watery, there may be an arcus adiposus, and the conjunctivæ look fatty. The skin of the face is smooth and even, and often covered with many small red vessels, ramifying in patches of a stellated form. There may or may not be corpulence; it is by no means a necessary accompaniment. The patient will consult his adviser for a cold which seems to hang about him, and on examining his throat the conditions mentioned will be noticed. If the irritation about the epiglottis has been rather annoying, with some cough, redness of the mucous membrane will be visible. There is no necessary connexion between this affection and diabetes, because of the sweet taste of the mouth; nevertheless, I have occasionally noticed a small quantity of sugar in the urine." (Pp. 68-69.)

The treatment which Dr. Gibb says he has found most useful is half-drachm doses of the dilute nitric acid of the *London Pharmacopœia* with nitrate of potass, and a stomachic; the bowels being carefully regulated. Sometimes he gives aromatic sulphuric acid, with sulphates of potass and iron. Meat, in the form of mutton, should be taken once a day; malt liquors should be avoided, but weak whisky or gin and water may be used.

In the treatment of croup, the following is an outline of the author's practice. Bloodletting he does not in general recommend for children; but, if the symptoms are violent and the fever high, and the child is seen sufficiently early, he would apply two or more leeches to the upper part of the sternum. An emetic should then be given; and for this, he prefers a solution of antimony (tartar emetic we suppose he means) in the proportion of two grains to the ounce of water, of which a teaspoonful is to be given every ten minutes until vomiting is produced. This should be followed up by the warm-bath; after which he gives nauseating doses of antimony. It is necessary, he correctly observes, to carefully watch the effects of the antimony. Tracheotomy he does not utterly condemn, though he does not advocate it; for, he says, he has seen it performed in some dozens of cases, of which, with few exceptions, all died. In preference to this proceeding, he has, he says, employed emetics of a very strong decoction of senega in desperate cases; and has found them serviceable. In three instances, which were looked on as almost too hopeless for tracheotomy, we are informed that the use of the senega caused the removal of the false membrane, and saved life. The following are Dr. Gibb's directions for the preparation and administration of the medicine:—

"Take two ounces of the good root of senega, well bruised or broken up, and boil it in a pint and a half of water in a small saucepan down to a pint, strain and cool it, and administer it in doses of a dessert-spoonful every ten minutes, until free vomiting has taken place, with expulsion of the membrane. It may be repeated, if necessary; but it is only in such cases that other remedies fail, that this strong decoction should be employed. Carbonate of ammonia may be added sometimes in the dose of a grain or half a grain, *after* the emetic influence is produced; and occasionally the mixture may be given by the rectum. It is as well to sweeten it, when taken by the stomach, with syrup or bruised liquorice-root, which cover both the acrimony and flavour peculiar to it. An infusion of the senega may be substituted for the decoction, made in the proportion of two ounces of the root to a pint of boiling water, and used in the same doses." (Pp. 112-113.)

In the thirty-first chapter, Dr. Gibb describes a lesion which has received but little attention, but which, he believes, is of more frequent occurrence than is imagined; viz., dislocation of one or both cornua of the hyoid bone. The cause of the dislocation is ascribed to relaxation of the throat-muscles, or to vio-

lence. When it arises from the former cause, it is liable to repeated occurrence. The lesion is indicated, according to the narrative of a case published by Dr. Gibb in the tenth volume of the *Transactions* of the Pathological Society of London, by a sudden click in one side of the neck, followed by a sensation as of something sticking in the throat It is reduced by throwing the head backwards or to the opposite side, and then depressing the lower jaw, so as to put the depressors of the hyoid bone into operation. In addition, steps should be taken to improve the general health by means of tonics.

In the treatment of various forms of throat-disease, Dr. Gibb advocates the local application of solution of nitrate of silver in the manner described by Dr. Horace Green of New York. It would seem, from all that has been said and written on this subject, that in some hands the introduction into the larynx of a sponge, charged with the caustic solution, is practicable and beneficial; while others have found drawbacks to its adoption. The real value of the remedy—both as to its applicability by the practitioner and its utility to the patient—has yet to be determined with precision.

We recommend this book to our associates, as one from which they will from time to time receive useful hints as to the line of practice to be followed in the treatment of diseases affecting the throat.

LETTERS AND COMMUNICATIONS.

Letters or communications for the Journal should be addressed to Dr. Wynter, Coleherne Court, Old Brompton, S.W.

Letters regarding the business department of the Journal, and corrected proofs, should be sent to 37, Great Queen Street, Lincoln's Inn Fields, W.C.

British Medical Journal.

SATURDAY, APRIL 7th, 1860.

POOR-LAW MEDICAL REFORM.

Mr. Griffin has slowly rolled up the heavy stone of Poor-law medical reform to the very brow of the hill. One more well concerted effort, and it will be landed at the comparatively safe level indicated by a successful second reading. There can be no doubt that the passing of Mr. Pigott's Bill will form an epoch in our profession second only to that of the Medical Reform Bill itself. A measure affecting materially the comforts and fortune of upwards of three thousand of the energetic medical practitioners of this country, and that of the pauper poor in a still greater degree, can no longer be looked upon with that apathy that we regret to say has heretofore marked the conduct of the Poor-law medical officers as a class. Only as late as February last, we thought it our duty to call especial attention to the scheme propounded by Mr. Griffin, which we esteemed worthy of the support of every man in the profession. Mr. Pigott's Bill, which has already been read a first time, and will, we hope, go into committee soon after Easter, is pretty much of the same character. It will be worth while, however, to draw attention to some of its clauses, which have not yet been sufficiently noticed. We have not been able to obtain a copy of the Bill actually introduced by Mr. Pigott; but at page 276 we give an abstract of the last amended Draft Bill of Mr. Griffin, from which we do not expect that Mr. Pigott's measure will differ in any material respect.

As, undoubtedly, the great grievance of the Poor-law medical officer is the wretchedly inadequate rate of pay he receives for very arduous work, he will be glad to learn that, if this Bill passes, his income for pauper patients will be considerably more than doubled. Thus their collective salaries are now only £150,941 per annum: by the new scale of payment, however, these salaries will be increased to £342,395. But this is not by any means the whole of the increased money payment; for he will have the choice of making additions to his income in several ways; and, first and foremost, we wish to draw attention to Clause xxxvii, which provides that

"Poor-law medical officers shall be officers of health, excepting in those places where officers of health have been already appointed; but even then, where vacancies occur, the Poor-law medical officers shall occupy them; and their salaries, which shall be paid out of the Consolidated Fund or the poor-rates, shall be such as the Privy Council may direct."

The vast importance of this clause must be self-evident. We are apt to think that a country village must of necessity be healthy. Nature has supplied the pure air, the running brook, and good natural drainage; but the fact remains, that many villages are more unhealthy, and have been so time out of mind, than the densest courts in Seven Dials. Dr. Barker tells us of a few houses situated on the top of a fine breezy hill, from which the water fell on all sides, as from a dome roof; nevertheless, those houses were never without fever, and cost the parish more than all the rest of the neighbourhood put together. The cause was simple, and would undoubtedly have been removed had the Poor-law medical officer been also an officer of health. The inhabitants had excavated a deep ditch, which retained all the sewage of their houses just under their back doors. Dr. Barker's case, no doubt, can be paralleled by hundreds of others under the notice of medical officers. They know all the plague-spots of those neighbourhoods; and the mere act of constituting them officers of health would, we firmly believe, at one blow, materially reduce the charge upon the country for its sick pauper poor. We shall indeed be delighted to find that Mr. Pigott has been enabled to extend preventive medicine throughout the length and breadth of the land. The payment to the medical officer for this new duty would be a very sensible addition to his income; and it should be remembered that it is a duty that will more than pay itself in a far healthier population, and in a community less burdened with helpless widows and orphans.

Clause xxxviii is no less important as regards the check it will in all probability give to crime. It

"Directs the Registrar to order the District Medical Officer, in all cases of sudden death, where no registered Medical man has attended the deceased, to make inquiries and give a certificate to the Registrar, and also to the Coroner, if necessary, as to the probable cause of death. The fee to the Medical Officer to be 5*s*., with 1*s*. for mileage, which is to be paid for out of the common fund of the Union."

This clause has evidently been called for by the extreme reluctance which Boards of Magistrates have evinced to pay Coroners' fees. The known fact that these fees would, in a large number of cases, be disallowed by those in authority, has paralysed the action of Coroners throughout the land; and we have no doubt that the result is a very great increase of unnatural deaths. Mr. Pigott proposes to get rid of this state of things, so detrimental to the morality of the popula-

tion, by delegating all preliminary inquiries to be made by the district Medical Officer. No doubt the country would be vast gainers by this method in all cases where the Coroners are non-medical. It will have the effect of dividing the medical from the legal element in such cases, much to the advantage of all parties. It is curious to observe, however, the different scale observed with regard to the payment of the professions. Did any one ever hear of a legal Coroner demanding 5*s*. only as a fee for a preliminary inquiry as to the cause of a suspected death? The responsibility placed upon the officer charged with this duty is so great, the labour may be so exorbitant, the questions to be decided so nice, that the sum of 5*s*. as a remuneration seems absurd, and we hope the framers of the Bill will ultimately see the matter in this light.

Another highly important regulation will be found in Clause xxxiv, which provides for the

"Relieving Officer to affix a mark against the names of those in receipt of medical relief only, in order that a calculation may be made of the diseases affecting each class; this it is directed shall be laid before Parliament, together with a list of cases, occurring in each union, of diphtheria, cholera, diarrhœa, continued fever, (why not ague?) scarlet fever, measles, hooping cough, and small-pox."

What a boon such a return would afford to the Registrar-General—imagine his delight at having before him a mass of all the disease-spots of England, marking their natures and degrees! We have never let slip the opportunity of insisting upon the necessity of establishing some good scheme of medical statistics as a preliminary to the right study of disease itself. To record the mere deaths that have taken place, is only to present a corner of the picture we desire to see. If, through the agency of the Poor-Law Medical Officers, we are able by and by to post up the great book of disease, and to show the whole pattern, as it were, at one view, we shall have made a vast advance in the science of medicine. We most fervently hope, therefore, that this clause will be carried.

Another clause that demands attention is that numbered xxxi, which enacts that—

"A Medical Officer may direct the kind of diet for the sick, and the Relieving Officer, or Master of the Workhouse, as the case may be, shall obey such direction until ordered to the contrary by the Guardians; and that meat, wine, and spirits, shall be kept at the workhouse, and given out by the Master to all patients for whom they may be ordered, who live within three miles."

It seems almost incredible that such a clause should be required. Imagine a hospital physician having to submit to the judgment—nay, the mere will—of the house-steward, the diet he shall give his patients. Can it be believed, again, that it is necessary to enact that meat, wine, and spirits, the sheet-anchors of the medical man, employed among the half-starved pauper poor, should be kept at the workhouse for the use of sick out-patients? Verily this Bill in the glaring omissions it proposes to supply, is a monument of the deplorable state of the law as regards the sick pauper poor, and a testimony to the necessity of establishing some central medical authority, such as a medical commissioner, having a seat at the Poor-law Board, in order that our science may not be rendered abortive, and humanity outraged by the niggardliness and hardheartedness of the small tradesmen and persons who compose our boards of guardians. We rejoice to see that it is proposed by this Bill to make all magistrates *ex officio* members of such boards; their larger intelligence and wider views would tend greatly to ameliorate the evils we have spoken of, as springing from a rough and undereducated class of persons entrusted with little less than absolute power.

Mr. Pigott will require all the aid the Poor-law officers can give him in the coming campaign; and to encourage their efforts, we may say that there are promises of good support, and that a hard pull, a long pull, and a pull altogether, will in all probability end in the passing of the Bill. As a final word, therefore, we say to the Poor-law medical officers, Petition, petition, petition; and use every exertion to influence your respective representatives in Parliament to support Poor-law Medical Reform, now that a measure is actually before the House.

THE WEEK.

As many of our readers will be curious to know the cost of the official *Medical Register*—a fact which does not appear upon the balance-sheet of the Medical Council—we may state that we have authority for saying that the charge for printing and publishing it was no less than £1250. This sum is entirely irrespective of the value of the clerks' work, etc., employed in compiling it, which probably cannot be put down at less than £500, making a total of over £1700. Now, the number sold was about 1735, realising only £494:10:4. It is pretty clear, therefore, that the *Register* was produced at the rate of about £1 a copy! We are glad to hear, however, that the expense will not be nearly so heavy in future, inasmuch as the type is kept standing, and corrections only will be necessary.

Mr. George May of Reading, in a letter published at page 275, calls attention to that obnoxious impost, the income-tax. His object is to induce the medical profession to unite in a movement for an amendment of the system by which the uncertain produce of toil and the income which flows steadily from the public funds are taxed as if they both represented one and the same thing. Mr. May suggests a general co-operation of professional men for this purpose; and he refers particularly to the members of the legal profession, the organs of which, he says, are advocating the formation of a central committee. The question is one which affects medical men in a high degree among the hard workers of the community; and we would strongly urge the proposal of our correspondent on their consideration. On a matter of this kind, there will be little or no difference of opinion; but the unanimity must show itself actively, and not be content with remaining passive.

In anticipation of the enfranchisement of the University of London under the Reform Bill now before Parliament, several gentlemen of the Liberal party have been nominated as eligible candidates. We have not noticed the name of any one connected with the medical profession among them. The Conservative section of the University have lately issued an address, in which, while they do not put forward any candidate, they urge strongly that the future representative of the University—if it is to have one—should be a medical man.

Association Intelligence.

BRANCH MEETINGS TO BE HELD.

NAME OF BRANCH.	PLACE OF MEETING.	DATE.
Birmingham and Midland Counties. [Ordinary Meeting.]	Hen and Chickens Hotel, Birmingham.	Thursday, April 19th, 6 P.M.

ROCHESTER, MAIDSTONE, GRAVESEND, AND DARTFORD DISTRICT MEETINGS, IN CONNEXION WITH THE SOUTH-EASTERN BRANCH.

The third of the present series of meetings was held on Friday, March 30th, at 3.30 P.M., at the Town Hall, Gravesend. Present: W. Sankey, Esq., (Dover), President of the Branch, in the Chair; J. Armstrong, M.D. (Gravesend); F. J. Brown, M.D. (Rochester); John J. D. Burns, M.D. (Chatham); J. M. Burton, Esq. (Lee Park); J. E. Crook, M.D. (Northfleet); James Dulvey, Esq. (Brompton, Chatham); F. Fry, Esq. (Maidstone); W. J. Keddell, Esq. (Aylesford); F. Plomley, M.D. (Maidstone); Flaxman Spurrell, Esq. (Bexley Heath); E. Moore, Esq. (Dartford); with W. H. Flight, Esq. (Gravesend), as visitor.

The minutes of the last meeting were read and confirmed.

New Member. Henry Barnett, Esq., of Blackheath, was unanimously elected a member of the Association and of the Branch.

Papers. The following papers were then read:—

1. On the Diagnosis of Phthisis by the Microscope. By F. J. Brown, M.D.
2. Report of Two Cases of Narcotic Poisoning. By J. E. Crook, M.D.
3. Report of a Case of Congenital Malformation of the Heart. By J. J. D. Burns, M.D.
4. The President communicated the details of Three Cases of Placenta Prævia, which had occurred in his practice within the last twelve months.

Votes of Thanks. The thanks of the meeting were unanimously given to those gentlemen who had read the papers, and they were requested to allow them to be published in the Journal of the Association; also to the President, for having kindly come from so great a distance to take the Chair; and to the Mayor of Gravesend, for his courtesy in having granted to the profession the use of the Town Hall.

Dinner. At 5.30, the members adjourned to dinner, and passed a most agreeable evening.

Reports of Societies.

EPIDEMIOLOGICAL SOCIETY.

Monday, March 5th, 1860.

B. G. Babington, M.D., F.R.S., President, in the Chair.

REPORT OF A COMMITTEE APPOINTED BY THE YORK MEDICAL SOCIETY, TO INVESTIGATE THE QUESTION OF THE DISINFECTING POWERS OF HEAT.

[*Read by* J. O. McWilliam, M.D.]

The Committee had endeavoured, by means of written inquiries, to obtain the best information on the following points:—1. As to what was already considered to be known and determined in relation to this question; 2. As to the extent to which a belief in the truth of the affirmative proposition had been entertained and acted on; and 3. What had been the practical conclusions arrived at in those cases in which the principle had been admitted into practical application?

The late Dr. Henry of Manchester, at the solicitation of a merchant of that town, made a series of experiments with the view of devising some certain and effectual method of disinfecting cotton of the contagion of plague, without impairing the tenacity of the fibre, or rendering it in any way unfit for the purposes of manufacture.

That heat might possess disinfectant power, suggested itself to Dr. Henry from reflecting on the observations of Dr. Russell and other writers on the plague, that this disease appears to lose its contagious property during the prevalence of very high degrees of atmospherical temperature. Chemical reasoning also appeared to strengthen the probability that a temperature raised to no great extent would suffice for the decomposition of infectious matter, as being products of organic life, and consequently of a complex nature, and owing their existence to affinities which are nicely balanced and easily disturbed, and ready, under the influence of heat, to have their atomic arrangements modified, and their character and properties disturbed.

Dr. Henry ascertained: first, that cotton, silk, and wool, may be exposed for several hours to any temperature under 212° Fahr., without being in the slightest degree damaged; secondly, that vaccine lymph does not lose its characteristic properties by exposure to a temperature below 120° Fahr., but that it is rendered totally inert by exposure to a temperature of 140° Fahr.; and, thirdly, that four children, between the age of six and thirteen years, who were well ascertained not to have had scarlet fever, wore with impunity jackets worn during the height of the eruption by scarlet fever patients, and afterwards corked up in bottles, and exposed to a dry heat, varying from 200° to 206°, for a period varying from two to four hours. Dr. Henry likewise tried some experiments on his own person, with the infection of typhus fever, flannel waistcoats being similarly employed with negative results; but on these he did not lay much stress.

These experiments afford the chief ground, and the only scientific basis, of a belief in the disinfecting power of heat; and they derive great weight from the well known scientific accuracy of Dr. Henry as an observer and experimenter, and the philosophic caution by which he was distinguished.

After seeking and obtaining information from various sources, the Committee arrived at the following inferences and conclusions.

1. The experiments of Dr. Henry, although insufficient for the purpose of scientific demonstration, afford strong presumptive evidence that heat, near the boiling temperature, does possess the property of destroying infection claimed for it by the discoverer.

2. Although no carefully conducted experiments on this subject appear to have been instituted since those of Dr. Henry, yet, so far as the inquiry has extended, wherever the principle has been acted on, the result has been satisfactory. The argument being in its nature cumulative, this theme gained additional force, since first propounded, though, from lack of observation, it has not made that progress which the friends of science and humanity might hope for.

3. Nothing has been added to the literature of the subject since the very able original papers were published; and the professional mind has shewn too great indifference, and has not realised the great sanitary importance of the discovery.

4. The credit of the profession is involved, and it is incumbent on its members, who alone possess the means and opportunities of accumulating evidence, not to allow this question to continue in its present unsatisfactory condition, but to take measures for its practical solution.

5. The required proof and public confidence in its sufficiency, can only be attained by a widely extended trial of the power of heat as a disinfectant, under the recommendation and observation of the members of the medical profession.

6. It would tend greatly to insure the accomplishment of this object, if the Epidemiological Society could be induced to take up the inquiry, and recommend it to the consideration of its members. It would be for this—the York Medical—Society to consider whether it might not be desirable to report their proceedings to the President of that Society.

7. Measures should be taken to induce the members of the profession generally to give their attention to the subject, in order to insure a numerous and widely extended series of observations, conducted under the supervision of medical men, which may be made available as evidence.

8. As nothing would be so likely to facilitate every other measure which it might be considered desirable to adopt for the furtherance of this inquiry as the being able to recommend to the profession and the public some simple and inexpensive apparatus, it would therefore be desirable, as a first step, to appoint a Committee to consider the best construction of an apparatus for conducting the process of disinfection by heat.

A discussion followed, in which Dr. Lewis, Mr. Radcliffe, Dr. Camps, Mr. Lord, Mr. Burge, Dr. Milroy, Dr. Babington, and Dr. McWilliam took part.

MEDICAL SOCIETY OF LONDON.

Monday, April 2nd, 1860.

A. B. Garrod, M.D., F.R.S., President, in the Chair.

ON SOME OF THE DISADVANTAGES OF EMPLOYING FALLEN WOMEN AS WET-NURSES. BY C. H. F. ROUTH, M.D.

After remarking that the subject of his paper was one which demanded the attention of medical men as well as of the community, Dr. Routh proceeded to discuss it under the following heads:—

1. The reasons which induce the selection of a wet-nurse at all.
2. The reasons which induce the selection of fallen women in particular.
3. Difficulties in the selection.
4. The influence on the household into which she is admitted.
5. The influence on society generally, as an incentive to crime.
6. The almost certain death of the wet-nurse's child.
7. The probable death of the foster-child, from drugging and starving, and the inexperience of the wet-nurse.
8. The moral influence on the mental condition of the child.

1. *The reasons which induce the selection of a wet-nurse at all* were the following:—*a*. Fashionable mothers were in fear of losing a good figure, the excitement of society, and places of amusement. This reason could only be reprobated by all honest medical men, as being unnatural. At the present time, the number of women likely to be influenced by this reason was small. *b*. Another alleged reason was defective lactation, with or without weakness on the part of the mother. This opened a wide subject, which Dr. Routh had already freely discussed, and he would now therefore remark only that the proper admixture of cow's milk with but a very small quantity of mother's milk would often suffice for the child; while the health of the mother might be improved by proper food and medicine. The cases which would resist this course were comparatively few; and depended mostly on the remedial measures having been adopted too late, or on the presence of specific disease in the child. *c*. The presence in the mother of specific disease, as scrofula in an unusual degree, phthisis, mania, cancer, syphilis, etc., was another reason alleged for employing a wet-nurse. Allowing the full force of the argument, Dr. Routh held that in many instances the proper specific treatment of the mother would also cure the child. This was especially true with regard to syphilis. In scrofula, artificial food might be given to the child while the health of the mother was improved by proper feeding. *d*. In regard to another reason, that of the mother's milk not agreeing with the child, Dr. Routh observed that, admitting its correctness, change of air and food to the mother, and some artificial food and medicine to the infant, would often do a great deal, even in a week or two. The cases which resisted this course occurred mostly in the earlier or in the later periods of suckling. In the former case, if a wet-nurse was employed, much treatment of the child was still required: and in the latter, after eight months, weaning often proved as effective as the employment of a wet-nurse. *e*. The danger of dry-nursing, as a reason for employing a wet-nurse, Dr. Routh could not recognise as sufficient. It had been shewn that, while the want of breast-milk would only account for a mortality of 3.8 per cent., the deaths of hand-fed children were due rather to injudicious feeding—he would almost say poisonous feeding—especially with vegetable matter: to crowding together, want of exercise, epidemics, etc.

2. *Reasons which induce the selection of wet-nurses from among fallen women.* These were ascribed to two motives—benevolence and selfishness. The first of these feelings has been urged strongly by several in the medical profession, especially by Mr. Acton; who urged that the downward course of a woman who has fallen once, may be checked by surrounding her by the influence of a virtuous family. Dr. Routh admitted the force of the argument where the woman's error has arisen from an over confiding disposition, and where she has hitherto borne an irreproachable character; but he believed that such cases were few, and that the end will seldom be found to justify the means. In most cases, he thought the motive to be selfish, and based on the grounds that lower wages will be required, and that the woman, from her isolated position, will be more likely to remain than one who is married. The affection for the foster-child, it is said, will exceed that for her own; and there is no conjugal affection to draw her away. Dr. Routh regarded it as unnatural, if not criminal, to induce a woman to forget her own offspring.

3. *Difficulties in the selection of a fallen woman as a wet-nurse.* In choosing a wet-nurse, we avoid a person affected with disease; but the evidence is almost always taken from the woman herself. Yet, Dr. Routh said, an adept might deceive any medical man. He referred to cases in which syphilitic women, women who had borne several children, who habitually cohabited with men, etc., had obtained situations as wet-nurses in spite of inquiry. Another objection urged by Dr. Routh arose from the fact itself of choosing wet-nurses from among unmarried women who had but one child: it was that they have no experience in the management of children—which is most important, especially because it is delicate children who generally require a wet-nurse.

4. *Influence on the household.* If the woman be of bad character, she may exert an evil influence on the master, the mistress, and the servants; especially if in any of these there be a favourable disposition. Wet-nurses selected from among fallen women have often the peculiarities of thought and language which are met with among the women who frequent the lying-in rooms of the lower classes. As to the effect on the mistress, in a country where the purity of the wives is unimpeachable, Dr. Routh regarded it as seldom, if ever, vicious; yet, it must be admitted that the association of the better classes even with domestic servants is almost always prejudicial, and the danger is greater in the case of a wet-nurse, from the close and durable intimacy which is formed between her and the mother of the child. The influence on the master of the household was next adverted to by Dr. Routh as liable to be pernicious. The fact that the nurse does not commonly object to suckle the child in the presence of the father, was regarded by him as apt to give rise to a dangerous intimacy. On this point, he knew, there was a difference of opinion: some accoucheurs in large practice stating that they had never known instances of improper familiarity between the father and the wet-nurse; others stating that they had known several cases. Dr. Routh had heard of nineteen such cases from about eight practitioners; and he asked the experience of the Fellows of the Society on the subject. He believed entirely, that the worst of the effects to which he alluded were only exceptional: but, since faithfulness and virtue are estimated among women in this country, and vice reprobated, he would pity and relieve and endeavour to reclaim the fallen; but he would not familiarise our households with the spectacle of vice rewarded.

5. *Influence on the community.* The employment of fallen women as wet-nurses was regarded by Dr. Routh as an incentive to crime. To prefer fallen women to married, to give them better wages than the other female servants, to pass over their fault lightly, and allow them to occupy prominent positions in households, is to favour the passions of the frail sex, and to encourage the seducer by giving employment to his often too willing victim.

6. *Influence on the Nurse's Child.* By employing a fallen woman as a wet-nurse, Dr. Routh urged that the death of her child is authorised. On this point, he quoted some statements made by Dr. Bachhoffner before the St. Marylebone vestry. In that parish, of 1109 illegitimate children born in the Rectory district, 820 had been born in the workhouse; and there had been 516 deaths of illegitimate children registered, or 46 per cent. on the whole. In St. Mary's district, there were 592 births registered, and 109 deaths, or 18 per cent. In All Souls' district, of 145 illegitimate children, there had been 87 deaths, or 53 per cent. In Christchurch district, there had been 223 illegitimate births, and 209 deaths, or 93.7 per cent. in three years. In St. John's district, among 148 births, there had been 129 deaths, or 87 per cent. As a result of sixteen years experience as district registrar, Dr. Bachhoffner had found that usually, within three or four weeks after the registration of the birth, the death of the child was reported, from mesenteric disease, diarrhœa, inanition, and other diseases arising from want of proper food and attention. Dr. Routh alluded to the inducement held out by the burial-clubs for the sacrifice of children by poison or otherwise, and hinted that many of the alleged deaths from still-birth are in reality cases of infanticide. Whatever be the cause, the mortality among illegitimate children is very great. Mr. Acton states that, of 388 illegitimate children, there died, in 1857, 326 under the age of one year; the most fatal period being between one and three months. Other statistics were also referred to, as showing the great mortality among these children; and, while Dr. Routh admitted that part might be explained by

want of experience and dry-nursing, he would ask how much must be put down to infanticide. He quoted Mr. Acton as stating that, in 1856, 846 infants were recorded as having been hanged, strangled, poisoned, suffocated, etc.; and that probably the majority of these were the illegitimate offspring of first falls in virtue. Dr. Routh could not understand how Mr. Acton could recommend such women as the mothers of these unfortunate children as wet-nurses.

7. *Influence on the Foster-Child.* The employment of a wet-nurse Dr. Routh stated to increase the percentage of infantile mortality; and this assertion he founded on statistics collected by Benoiston de Chateauneuf and himself. The explanation is, that in its own mother's milk a child derives its nutrition from the body to which it has been accustomed; while there is a greater chance of another person's milk disagreeing with it. Probably also much is due to the want of experience in the wet-nurse. Wet-nurses are also liable to commit the faults of drugging and starving the infants. This they will sometimes do for the sake of retaining a good place, by keeping the child apparently satisfied with their milk, although it does not thrive. Several instances of this kind had fallen under Dr. Routh's observation, and were related by him.

8. *Influence on the Mental Condition of the Child.* Dr. Routh had already given his opinions on this subject; but it required to be again referred to in the present place. The reasons which led him to suppose that depraved mental influences on the part of the foster-mother may be communicated to the child were the following: *a.* Certain diseases, some of them mental, are hereditary from parent to child. *b.* It is generally believed in practice that the diseases which are known as hereditary are transmissible through the foster-mother's milk. This belief invariably guides in the selection of a wet-nurse. *c.* These tendencies develope with growth; and at no time is a child's growth so rapid as during the suckling period. *d.* Speaking analogically from animals and adult persons, their mental character is influenced by the quality of the food taken. *e.* The objection that this change of food, as effecting mental changes in the adult, does not apply to infants, was opposed to what we know of physiology and disease. Each of these propositions was enlarged on by the author, who adduced a number of instances in confirmation of them.

Mr. Acton was not disposed to oppose any views which might be brought forward of the question. He felt that it must no longer be thought that the objections brought forward by Dr. Routh were unanswerable. He did not think that, at the present day, there was an option as to obtaining wet-nurses from fallen women or not. Married women are not to be had as wet-nurses; and hence selection is confined to the fallen. We are not justified in concluding that a large number of married women are disinclined to nurse their children; wet-nurses are rather chosen by the medical men on constitutional grounds affecting the mother. He questioned many of the allegations made against the fallen women. He had never advocated the introduction of them into houses; but he had advised simply that, when they had fallen but once, they might be admitted; and this would in many cases be a means of rescuing them from further degradation. He had known many instances of this, in which the women had become respectable servants. How far can an immoral milk affect the child? He knew a veterinary surgeon who had three children; two were brought up by wet-nurses, and the other by a donkey. The latter was the healthiest. A pointer bitch will have ten pups, of which some must be distributed among other bitches. Whether the animals are brought up by the mother or by curs, the dogs, if of good breed, do not vary in their good qualities. He had yet to learn how the mental qualifications of the mother could be communicated to the child. There were well known instances in which the children of pious parents, suckled by the mother, had proved to be highly immoral characters. He thought it time that the subject should be put on its right footing.

Dr. Webster concurred with Dr. Routh as to the propriety of mothers nursing their own children. He thought the present tendency was rather in the opposite direction. The position in which wet-nurses are placed by feeding and wages is an incentive to vice.

Dr. Chowne asked Dr. Webster how we know that the milk of a nurse influences the mental character of the child.

Dr. Webster would refer Dr. Chowne to one of Sir Walter Scott's novels, in which two children were said to have been suckled, the one by a deer, the other by a wolf-dog; their characters being correspondingly different. He mentioned this merely as an illustration of the popular opinion.

Dr. Murphy said, no more important question was brought before medical men in the metropolis than the selection of wet-nurses. If there were less difficulties, it would be possible to obtain married women as wet-nurses; but there is this difficulty. The Englishwoman thinks a long while before she marries, and does so with the preconceived idea that she shall occupy her own house and have her child. The idea of breaking through this has an injurious effect; so that it becomes a question how far the safety of the child can be carried out. We are therefore driven to the other alternative. The observations of Dr. Routh on artificial feeding were very important; and much more might be done in this respect. But, compelled as we are to use wet-nurses from among fallen women, he did not look on the practice with the same apprehension as Dr. Routh. We do not take, as wet-nurses, prostitutes or diseased women, but seduced girls, who have been the victims of others, and whom, by employing as wet-nurses, there is a chance of reclaiming.

Dr. Camps would confirm the statements of Mr. Acton and Dr. Murphy as to the introduction into families of the class described. He knew that one of the most valuable domestic servants in his family had been the victim of infamous conduct. After living in the service for years, she married respectably. There is a risk, in discussing medical subjects, of attempting to lay down general propositions. Did Dr. Routh allow that the influence of the mother's milk on the child was to be the sole cause of the determination of the mental qualities of the child? He believed that, in many cases, the mental qualities were derived from the father. He referred to a case in which several members of a family had been insane; and he discovered that the father had habitually gone to bed intoxicated. There was doubtless some truth in the statement that the nurse's milk might influence the child; but, he thought, not so much as the mother's milk.

On the motion of Dr. W. R. Rogers, seconded by Dr. Murphy, the further discussion of the subject was adjourned till the next meeting.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, March 27th, 1860.

F. C. Skey, Esq., F.R.S., President, in the Chair.

On the motion of Mr. Pollock, seconded by Mr. Charles Hawkins, the portion of the minutes referring to a vote of thanks to Dr. Granville for his pamphlet, *Dr. Todd and the late Member for Ashton*, was not confirmed.

ON INTRAUTERINE FRACTURES.

BY BERNARD E. BRODHURST, ESQ.

The author commenced by referring to some points of distinction which have been observed in fractures *in utero*. He stated that fracture might be simple or compound—disunited or reunited at birth; or that solution of continuity might be owing to imperfect ossification and congenital rickets. Having alluded to these several varieties, he proceeded to remark especially on reunited fractures *in utero*; and he quoted cases from Ploucquet, Kopp, Devergie, Carus, Schubert, Sachse, and Moffat; relating, also, the cases which had occurred in his own practice. The causes of intrauterine fracture were lastly considered; and it was stated that neither *contre coup* nor compression by the walls of the uterus could act so as to produce fracture, so long as the membranes—the chorion and amnion—remained entire; but there was reason to believe that intrauterine fractures occurred as effects of physical injuries—that the origins of these fractures and of congenital distortions were similar, and that they were occasioned by abnormal muscular action. Two cases of congenital double club-hand and double club-foot were adduced as examples of the mode in which abnormal muscular action and distortion are induced in the fœtus; and, moreover, the author stated his belief that, in these cases, whether of fracture or distortion, the effect varies as the cause varies, and that temperament or other like condition may probably also modify the effect.

A CASE OF FEMORAL HERNIA, WHICH HAD DESCENDED BENEATH THE PECTINEAL PORTION OF THE FASCIA LATA, AND WAS PARTIALLY COVERED BY THE PECTINEUS MUSCLE.

BY JOHN ADAMS, ESQ.

The case was that of a female, aged 45, who was admitted into the London Hospital labouring under the usual symptoms of strangulated hernia. After the most careful inquiry into the history of the case, the conclusion arrived at was that, as

no hernial swelling could be detected in the region of the crural opening, the case was one of femoral hernia, which had been reduced by the taxis, and in which the symptoms continued, probably from the effects of the stricture upon the intestine. There were two movable lymphatic glands perceptible in the crural region. The woman complained of dull pain in this region. Under this impression, a grain of opium was administered every four hours, and the sickness subsided. On the third day after the commencement of the opiate treatment, the symptoms reappeared with increased intensity. A further examination was made, but no hernial swelling was detected. An injection of warm water was ordered night and morning, and a grain of calomel, with half a grain of opium, were ordered every four hours; brandy and wine were also administered. On the fifth day after her admission, all her symptoms became exacerbated, and she was at once taken into the operating theatre for a more complete exploration of the femoral ring. When placed on the operating table, with the thigh everted, a fulness, rather than a swelling, was perceptible, apparently under the edge of the adductor longus. The skin and superficial fascia were divided over this swelling, and a little dissection exposed a dense, elastic fascia, slightly raised into a convex bulging. From its position and depth, the fascia was at once recognised as the pubic portion of the fascia lata: it was remarkably tense. Mr. Adams carefully scratched it with the scalpel, and it was divided on a director. Some red fibres were clearly distinguishable overlapping the swelling under the fascia, which, from their direction, were evidently part of the pectineus. It was necessary to cut these transversely inwards on a director. The hernial sac was now exposed, and its neck was traced to the femoral ring. A portion of omentum, much congested, was found in the sac, under which was some small intestine in a gangrenous condition; and there was some dark fœtid pus in the sac. The stricture was divided, and a portion of the omentum was removed. A quantity of feculent matter escaped on the division of the stricture. The wound was lightly dressed, and stimuli were administered. She died four days after the operation. At the autopsy, it was found that the hernia had descended through the femoral ring, but was not in the femoral sheath. It reached at least four inches below Poupart's ligament, and was situated behind and internal to the femoral vein in the direction of the pectineus muscle. The muscle, deprived of its investment of fascia lata, was deeply excavated by the lodgment of the hernia; a few of the fibres of the muscle—namely, those arising from the spine of the pubis—projected in the form of a fleshy column, and had overlapped the hernia; the remainder of the muscle was atrophied and sloughy. The remains of the pectineal portion of the fascia lata, which was somewhat sloughy, still covered this fleshy column alluded to. The hernial sac was sloughy, and contained omentum and a small piece of intestine quite gangrenous. The peritoneal surface of the small intestine in the abdomen was inflamed, and the intestines were agglutinated by recently effused lymph. The result of the investigation made during the operation and after death tended to show—1, that the hernia was of the femoral species; 2, that the descent had not taken place in the femoral sheath; 3, that it had passed through some unusual opening or slit in the pectineal portion of the fascia lata; 4, that there was a usual development of the inner fibres of the pectineus, which had formed a fleshy column over the hernia. It appeared also most probable that an epiplocele had existed for some time, and that a more recent descent of intestine had occurred, which had become strangulated.

Mr. Fergusson remarked that the case related inculcated the importance of the surgeon laying aside the dread entertained in former times respecting the making of an incision necessary to determine whether the case was or was not one of hernia. It was possible that, if the operation in this case had been performed earlier, the patient might have been saved. The duration of the symptoms of hernia was more to be dreaded than the operation itself.

The late War in Italy. A recent number of the *Moniteur* contains a list of medical men, priests, and other persons in Italy, to whom the French government has awarded crosses and medals for the care bestowed by them on the wounded in the late war. The Austrian government has bestowed the decoration of the cross of Maria Theresa on the medical practitioners of Toulon, who attended the prisoners of war, subjects of the Austrian empire.

Editor's Letter Box.

POOR-LAW MEDICAL REFORM.

Letter from Richard Griffin, Esq.

Sir,—Allow me again to trespass on the columns of your Journal to urge upon the Poor-Law medical officers the necessity of seeing or writing to their members of Parliament during the Easter recess to beg them to support the Bill introduced by Mr. Pigott. If they will carefully read over the commentary I have written, they will be able to explain the main points of the question, and combat the fallacious arguments of opponents. The Bill will either be read a second time or rejected in the course of this month; it therefore rests with the profession whether they will make use of the few days that are left them, or will throw away a chance of improving their position, and adding upwards of £200,000 a year to their income. Let them not be misled by a few selfish anonymous correspondents, or even by those who are bold enough to give their names, but turn to the tables in the commentary on the Bill and judge for themselves. A public meeting will be held at the Freemasons' Hall, Great Queen Street, Lincoln's Inn Fields, on Thursday the 12th instant, at one for two o'clock, and I trust that meeting will be well attended, and that a unanimous feeling will prevail in support of the Bill, which I know has the hearty concurrence of a large body of men, as the petitions already sent to Parliament testify. I also know there are many men in the House prepared to support it; but I fear there are others who will oppose it; I therefore call upon the Poor-Law medical officers, I call upon the profession as a body, I call upon the College of Physicians, the College of Surgeons, the Apothecaries' Hall, and all other public medical bodies, to petition in our favour; and though last not least, I call upon the students of the public hospitals to lend us their aid. Let us all unite in improving the position of the profession; and, above all, let us unite in doing our best to improve the welfare of the sick poor entrusted to our care, and, as a consequence, that of the ratepayers.

I am, etc., Richard Griffin.

12, Royal Terrace, Weymouth, March 31st, 1860.

POOR-LAW MEDICAL REFORM.

Letter from H. Gramshaw, Esq.

Sir,—In common, I hope, with many other union medical officers, I have forwarded a petition to Parliament in favour of Poor-law medical reform, and also endeavoured to enlist the sympathy of individual members of the legislature in our behalf. Surely, when Mr. Griffin works so indefatigably in the cause, we are all willing to aid him in carrying out his wishes on the present occasion. It may be gratifying to some of our associates to see a copy of the reply I received from Sir Fitzroy Kelly (one of the members for East Suffolk), after having written to him on this subject, as it proves he is evidently desirous of aiding us, if possible.

I am, etc., Henry Gramshaw.

Laxfield, near Framlingham, March 30th, 1860.

"House of Lords, March 28th, 1860.

"Dear Sir,—Be assured, if any Bill be brought in, or any measure should come before the House, in which the interests of the union medical officers can be promoted, or their position bettered, I will be in my place, to do my best for you. I will try and communicate with Lord Elcho, who is attending to the whole question. "Very truly yours,

"Fitzroy Kelly.

"H. Gramshaw, Esq."

THE INCOME TAX.

Letter from George May, Jun., Esq.

Sir,—The recent course of financial legislation has destroyed the delusion that the Income Tax was only a temporary source of revenue; and there is too much reason to fear, not only that it will be continued at its present high amount, but that no attempt will be made to adjust its inequalities.

Acting upon these views, a memorial has been addressed to the members for the borough of Reading, urging them to impress on the Government the necessity of an equitable adjustment. This memorial will receive the signatures of a very

large majority of both political parties; and there is every probability that this important subject will be a leading, if not a determining question, at the next election.

It should not be forgotten that the Budget of 1853 embodied the modification we are now seeking; and that it was defeated by Mr. Gladstone, on the ground that the entire was immoral, and that nothing should be done to render it permanent. If, under these altered circumstances, professional gentlemen of liberal politics will aid in opposing the Income Tax in its present form, there will be little difficulty in obtaining the desired modification. The law journals are advocating the formation of a central committee in London. If the medical profession can be induced to cooperate cordially in this movement, we may indulge a reasonable hope of success.

I am, etc., George May, Jun.

Reading, April 3rd, 1860.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

** In these lists, an asterisk is prefixed to the names of Members of the Association.*

BIRTHS.

Of a son, the wife of—

*Gibbon, Septimus, M.D., Finsbury Square, on March 31.

Of daughters, the wives of—

*Fletcher, J. W., Esq., Bengal Medical Service (widow of the late), at 13, Hill Street, on March 29.

King, Richard, M.D., Savile Row, on March 30.

MARRIAGES.

Carey, Lauger, M.D., Royal Artillery, to Caroline C., youngest daughter of the late Captain John Wilson, R.N., at Bath, on March 24.

Kinkel, Gottfried, Ph.D., of Eastbourne Terrace, to Minna, daughter of the late Julius C. Werner, M.D., of Königsberg, on March 31.

Mosenthal, Hermann, Esq., of Murraysburg, Cape of Good Hope, to Elise, second daughter of J. H. Steinau, M.D., Aliwal North, Cape of Good Hope, on January 10.

*Thorburn, John, M.D., Manchester, to Annie Pollok, eldest daughter of John Anderson, Esq., Manchester, on March 28.

DEATHS.

Barnes. On April 1st, Harry Wykeham, second son of *J. W. Barnes, Esq., of Islington.

*Braid, James, Esq., Surgeon, of Manchester, on March 25.

Halahan. On March 21st, in Guernsey, aged 23, Mary, daughter of J. H. Halahan, M.D., Inspector-General of Hospitals.

Leete. On March 26th, at Newton-le-Willows, aged 2½ years, Edward N., youngest child of Edward S. Leete, Esq., Surgeon.

Lupton, Bew, Esq., Surgeon, Cheadle, aged 64, on March 29.

Macgowan, Edward, M.D., at Jerusalem, on February 6.

Robarts, Charles, Esq., Surgeon, at Hammersmith, aged 65, on March 30.

HULL MEDICAL REGISTRATION ASSOCIATION.

The following is a copy of a memorial from the members of the above Association resident in Hull to the General Council of Medical Education.

"*To the General Council of Medical Education and Registration of the United Kingdom.*

"The memorial of the undersigned, being members of the Hull Medical Registration Association,—

"Showeth,—That your memorialists observe with regret that, at a time when the most strenuous efforts are being made to raise the status of the medical profession of the United Kingdom, the Royal College of Surgeons of England should so far have neglected its duty as a guardian of the interests of the profession as to have admitted to the honour of its membership men who have not followed any regular course of medical education.

"Your memorialists therefore respectfully request that you will exercise the powers vested in you for the purpose of putting a stop to proceedings so calculated to lower the position of legally qualified medical practitioners."

The petition is signed by twenty-six of the members of the Association, including the names of Sir Henry Cooper, M.D.; Owen Daly, M.D.; Drs. Lunn and King; and Mr. Craven, etc.; and has been forwarded to the Registrar, for presentation to the Council.

The Secretary of the Hull Registration Association (Mr. Carnley) has also fowarded to the Secretaries of the College of Dentists a protest (signed by thirty medical men of Hull) against the granting of diplomas in dentistry by the College of Surgeons.

POOR-LAW MEDICAL REFORM.

The following is a summary of the Draft Bill for the amendment of the system of Poor-Law Medical Relief, as finally amended by Mr. Griffin before its introduction into Parliament by Mr. Pigott. On comparing it with the abstract given in the Journal for February 4th, it will be seen that several modifications have been made, of which the principal are an alteration of the scale of payment in Section xvi, and the omission of the clauses relating to vaccination.

i. Facilitates the obtaining of Medical Orders by the poor, as the Overseers of each parish, and the Magistrates, in a Union, will have power to grant them, as well as the Relieving Officer.

ii. Empowers the Guardians to strike off the books the names of all persons who are capable of paying for Medical Relief, but the Guardians must pay the 3*s.* 6*d.*, or the 2*s.* 6*d.*, as the case may be, to the Medical Officer for his past attendance, or the whole or part of the fee for certain accidents and operations therein described; which payment they may, if they think desirable, declare to be a loan.

iii. Fixes a quarter of a year as the period a patient may remain on the books of a Medical Officer; after which, he shall be counted as a fresh patient, excepting in the case of a person whose order has been received only one week before the expiration of the quarter, or where a fee has been claimed, when the case shall remain on the books until the subsequent quarter day, unless struck off before, by the Medical Officer.

iv. Allows a Medical Officer to decline to continue an attendance on a sick person unless an order be procured; but should he continue to attend, and the Guardians at their next meeting do not object to the sick person's right to have an order, then the medical man shall be remunerated. The holder of an order for Medical Relief shall be entitled to medical assistance during child-birth.

v. Relates to the appointment of Medical Officers, and makes it compulsory on them to perform the duties required by this Act, and by the rules of the Poor-Law Board; it also makes it compulsory on Guardians to elect a doubly-qualified man, in preference to one with a single qualification; it also compels the Poor-Law Board to annul appointments not made in conformity with this Act.

vi. Compels the Guardians to advertise all medical vacancies in a newspaper of the County in which the Union is situate; it declares that the assistant of a medical man shall not be appointed; that all Medical Officers, not registered, shall forfeit office; that tenders for medical advice shall not be invited, but the estimated amount of salary, in accordance with this Act, shall be named.

vii. Makes it compulsory on the Poor-Law Board to accept the services of all registered medical men, provided they hold both a Medical and Surgical Qualification. The exceptions to the rule are, Medical Officers holding commissions in the Army and Navy, dated prior to the passing of this Act; or Surgeons or Assistant-Surgeons of the East India Company, whose commissions bear date prior to August 1826, and the Apothecary in practice prior to 1815, who may be elected although they have no other qualifications than their commissions. Officers elected with but one qualification shall remain in office for one year only, when the vacancy must again be advertised.

viii. Makes the appointment of all the present Medical Officers permanent, provided they reside within two miles of their district.

ix. Enables the Guardians, with the consent of the Poor-Law Board, to reduce or enlarge the size of a district; and also to appoint additional Medical Officers to act therein.

x. Provides for the filling up of a vacancy, unless the district be divided amongst the other officers.

xi. Limits the permanency of appointment of a future Medical Officer to those parts of a district not more than six miles from his residence, beyond which the office shall be annual; it also limits the attendance on the sick poor to 1,500 annually.

xii. Public Vaccinators shall have the same qualifications as Union Medical Officers.

xiii, xiv, xv. Define the duties of a Medical Officer.

xvi. Provides for the payment of Medical Officers of Districts, on acreage, at 1*d.* per acre, and on cases of illness at 3*s.* 6*d.* each, when the Medical Officer finds the medicines, and 2*s.* 6*d.* each when the Guardians find the medicines; but in the case of the Medical Officer of a Workhouse, Infirmary, Lunatic Asylum, or School-house, he shall receive 2*s.* 6*d.* in addition, for each attendance at the Workhouse, etc., if the institution be situate more than one mile from his residence, and 5*s.* if more than two miles.

xvii. Provides that a Table of Fees shall be drawn up by the Poor Law Board, with the advice of the Privy Council; that the Guardians shall not compound for the fees; that if a patient requiring an operation be sent to a Hospital, the Guardians shall pay the Treasurer of the Hospital a similar fee to that they would pay the Medical Officer for its performance. It also provides for a division of a fee in case the patient shall have been attended consecutively by two Medical Officers, or be treated by one Medical Officer, and then go to a hospital.

xviii. Provides for serious surgical cases, not enumerated in the Table of Fees, and gives power to the Poor Law Board to award reasonable extra allowance.

xix. Provides for advice, assistance, and consultations, and fixes the fees at 10*s.*, £1, or £2, according to distance.

xx. Provides that the payment of a fee of £5 for an operation shall not be made unless the advice of a registered medical man be procured before its performance, and a certificate be produced of its necessity. It also permits the advice of a registered Medical man, instead of, as at present, confining it to those holding particular qualifications.

xxi. Provides for the payment of a reasonable fee to any registered Medical man, not a Union Officer of the district, who may render important services in a case of sudden accident, or other cause immediately threatening life.

xxii. Provides that the Relieving Officer shall arrange for the conveyance of the Medical Officer's books to the Board of Guardians each Board-day.

xxiii. Empowers Boards of Guardians to establish Dispensaries, but limits their power of compelling the poor to send more than six miles for their medicines, or a Medical Officer holding a district extending further than six miles from a Dispensary if it can be avoided.

xxiv. Fixes the salary of a Medical Officer, who is debarred private practice, on the same terms as other Medical Officers.

xxv. Prevents the Guardians contracting with a Druggist for medicines and dispensing them for the poor, but empowers them to find them through the medium of their own Medical Officers; or, to purchase the drugs and have them dispensed by a dispenser resident at the Dispensary, but who shall not be a visiting Medical Officer.

xxvi. Declares that a Medical Officer's salary shall be payable up to the day on which he shall cease to hold office, and no longer.

xxvii. The salary of an Officer who may be suspended and afterwards dismissed, shall be payable up to the day of his suspension only.

xxviii. Cod-liver oil, leeches, requisites for poultices, and a list of drugs and appliances, which shall be drawn up by the Poor Law Board, with the advice of the General Medical Council, shall not be included in any contract with Medical Officers.

xxix. A Medical Officer shall be free of toll when on duty visiting Union Patients in his own district.

xxx. The Poor Law Medical Officer shall be free of tax on one horse, carriage, and man servant.

xxxi. A medical officer may direct the kind of diet for the sick, and the relieving officer or master of the workhouse, as the case may be, shall obey such direction until ordered to the contrary by the Guardians; and that meat, wine, and spirits shall be kept at the workhouse, and given out by the master to all patients for whom they may be ordered, who live within three miles.

xxxii. Medical Relief only shall not be deemed parochial relief, nor subject the recipient of it to any disqualification whatsoever.

xxxiii. All payments for Medical assistance related in Sec. 16, shall be a charge upon the Rate of the County in which the Union, Parish, or Incorporation is situate, excepting the payment for Drugs, Dispensaries, and Dispensers, or the sum allowed the Medical Officers for the medicines, which shall be a charge upon the Consolidated Fund, and all other payments a Union charge.

xxxiv. The Relieving officer to affix a mark against the names of those in receipt of Medical Relief only, in order that a calculation may be made of the diseases affecting each class; this it is directed shall be laid before Parliament, together with a list of cases occurring in each Union, of diphtheria, cholera, diarrhœa, continued fever, scarlet fever, measles, hooping cough, and small-pox.

xxxv. Directs the appointment of a Medical Commissioner or Secretary to the Poor-Law Board, who it is proposed shall be nominated by the Poor-Law Medical Officers.

xxxvi. Justices of the Peace for Boroughs and Towns shall be ex-officio Guardians.

xxxvii. Poor-Law Medical Officers shall be Officers of Health, excepting in those places where Officers of Health have been already appointed; but even then, where vacancies occur, the Poor-Law Medical Officers shall occupy them, and their salaries, which shall be paid out of the Consolidated Fund or the Poor Rates, shall be such as the Privy Council may direct.

xxxviii. Directs the Registrar to order the District Medical officer, in all cases of sudden death, where no registered Medical man has attended the deceased, to make inquiries and give a certificate to the Registrar, and also to the Coroner, if necessary, as to the probable cause of death. The fee to the Medical Officer to be 5*s.*, with 1*s*, for mileage, which is to be paid for out of the common fund of the Union.

xxxix. One shilling shall be paid for every certificate of death, or successful vaccination, which is furnished to the Registrar by a registered Medical Man, the payment to be charged to the common fund of the Union.

xl. Repeals all Statutes or Rules, or Orders and Regulations of the Poor-Law Commissioners, or Poor-Law Board, which are contrary to this Act.

xli. Empowers the Poor-Law Board to make Rules, Orders, and Regulations, in order to carry out this Act.

xlii. A copy of this Act shall be sent to all Poor-Law Medical Officers, whether now in office, or hereafter to be appointed, and also all Rules, Orders, and Regulations in reference to their duties, and copies of the Official Circulars of the Poor-Law Board, as often as published.

xliii. Relates to the construction of this Act.

xliv. This Act shall embrace all Unions under the Poor-Law Board, Gilbert's Acts, or Local Acts, but it shall extend only to England and Wales.

xlv. This Act may be amended, or repealed, by any Act to be passed in this present Session of Parliament.

The Deodorization of the Thames. The material which appears likely to be employed for the deodorization is perchloride of iron. Tenders are to be sent in on the 12th of April for the supply of quantities not exceeding 5,345 gallons a day at certain stations, at times to be appointed between the 1st of May and 31st of August next, besides further quantities on receipt of notice. These arrangements are designed, first, to combat the evil of the stench of the river, which is expected to recur from year to year till the main-drainage works are completed. The deodorizing stations are chiefly those which were in use last year. There will be 39 of them, for an estimated quantity of 4,095 gallons daily, together, on the north side of the river, and 15 of them (whereof five belong to the Earl sewer alone), for 1,250 gallons, on the south side. The Duffield sewer is expected to require as much as 414 gallons. The outlet of this sewer is in a district of Bermondsey where the deaths from cholera in 1853 and 1854 were 20·1 per thousand, nearly the largest number on that side the river. On the north side, the Fleet sewer may require 718 gallons daily; the London-bridge sewer, 544 gallons; the King's Scholars' Pond sewer, 497 gallons; and the Ranelagh sewer, 382 gallons. The quantities contracted for are to be subject to diminution or discontinuance on 14 days notice being given by the engineer. The perchloride delivered is to be tested by a chemist for the Board. Dr. Hofmann and Dr. Frankland stated that the deodorization of this, required all the year round, would not entail a greater outlay than that of £2,821 3*s.* for the disinfectant.—*Builder.*

HEALTH OF LONDON—MARCH 31ST, 1860.

[*From the Registrar-General's Report.*]

	Births.	Deaths.
During week ..... { Boys..1018 / Girls..941 }	1959	1708
Average of corresponding weeks 1849-58	1828	1520

Among the causes of death were—bronchitis, 272; pneumonia, 122; phthisis, 202; small-pox, 35; scarlatina, 49; measles, 25; diphtheria, 11; hooping-cough, 72. The deaths from pulmonary diseases (exclusive of phthisis) were 476, being 204 above the corrected average.

Barometer:

Highest (Wed.) 29·565; lowest (Sat.) 28·864; mean 29·378.

Thermometer:

In sun—highest (Mon.) 86·0 degrees; lowest (Sat.) 63·0 degrees.

In shade—highest (Wed.) 59·5 degrees; lowest (Tu.) 34·1 degrees.

Mean—45·3 degrees; difference from mean of 43 yrs. + 2·6 degrees.

Range—during week, 25·4 degrees; mean daily, 12·3 degrees.

Mean humidity of air (*saturation* = 100), 79.

Mean direction of wind, W.—Rain in inches, 0·23.

TO CORRESPONDENTS.

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Communications have been received from:—DR. C. M. DURRANT; MR. J. DULVEY; DR. B. W. RICHARDSON; MR. RICHARD GRIFFIN; DR. J. LEWIS; MR. H. GRAMSHAW; MR. A. H. DOLMAN; DR. S. GIBBON; MR. J. W. BARNES; MR. J. BLACKSHAW; MR. G. MAY, JUN.; and MR. CARNLEY.

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